Science Library

'41

the OIL AND GAS JOURNAL

JAN 13 1939

JANUARY 12
1939

PRICE
20 CENTS

HYDRIL JOINTS
CAN'T CREEP ★ WONT LEAK
HANDLE FASTEST ★ LAST LONGEST
OF ALL DRILL PIPE JOINTS

HYDRIL

"The best string of pipe that I have ever run"

That's what this prominent West Virginia driller said after he had cased a well to 4,994 feet with J & L 100% Inspected Casing.

"I have just completed a gas well for the Pitmar Gas Company, situated near the Pocatalico River, on the Albert Moore farm in Kanawha County, West Virginia. The well is down 5,152 feet and is cased to a depth of 4,994 feet with 7" O. D. Grade D, 24.30 pound, range two, J & L Seamless Casing, with long threads and couplings. This is the best string of pipe I have ever run and I have drilled gas and oil wells all my life in West Virginia and in many other fields. In my long experience as a drilling contractor I never ran a string of pipe which stabbed and made-up better than this string. Due to the fact that the collars were properly set-up at the mill, we did not have a single leaker in the string.

GUY RAY, *Drilling Contractor"*

J&L PIPE

The thread accuracy of J & L Pipe and Couplings, assured by this 100% inspection, means that every joint can be stabbed . . . spun in and tonged tight without delay . . . no galling of threads . . . no turning of couplings.

Your setting-time is cut and each job is completed sooner . . . therefore, at a greater profit.

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

PITTSBURGH, PENNSYLVANIA

MAKERS OF HIGH QUALITY IRON AND STEEL PRODUCTS SINCE 1850

The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

P. C. LAUINGER, *President* — *Editor*, C. O. WILLSON

W. T. ANDERSON, *Managing Editor* — JAMES McINTYRE, *Consulting Editor*

W. T. ZIEGENHAIN, *Engineering Editor* — L. G. E. BIGNELL, *Prod. Engineering Editor*

C. K. FRANCIS, Ph.D., *Technical Editor* — W. L. NELSON, *Metallurgical Editor*

Associate Editors

T. F. SMILEY
DAL DALRYMPLE
T. P. SANDERS
PAUL REED

District Editors

Houston, 617 Caroline St.
NEIL WILLIAMS — F. L. SINGLETON

Fort Worth, Petroleum Bldg.
D. H. STORMONT

Shreveport, City Bank Bldg.
GEORGE WEBER

Los Angeles, Union Oil Bldg.
L. P. STOCKMAN

Washington, Natl. Press Bldg.
HENRY D. RALPH

Saginaw, News Bldg.
O. C. PRESSPRICH

Denver, State Office Bldg.
TOLBERT R. INGRAM

New York, 415 Lexington Ave.
H. STANLEY NORMAN

Oil City, Derrick Bldg.
J. P. O'DONNELL

Chatham, Ontario, Box 136
VICTOR LAURISTON

S. H. ROURKE, Business Manager

M. F. BALDWIN, Circulation Manager

Advertising

E. KLAPPENBACH, Vice President

New York, 415 Lexington Ave.
C. L. CAIN

Cleveland, Leader Bldg.
HOWARD MARKT

Chicago, 300 W. Adams St.
C. R. FARMER

Tulsa, 211 S. Cheyenne Ave.
KENNETH J. LANGLEY

Houston, 617 Caroline St.
WAYNE RIVES

Los Angeles, 1406 S. Grand Ave.
J. HOWARD TINKHAM

Cologne, Germany—1 Laudahnstrasse
A. J. CHAMBERS

Table of Contents

Vol. 37, No. 35 — January 12, 1939

News Developments

Summary ... 19
Reserves of Crude Oil Establish New High ... *L. G. E. Bignell* 20
Sparks From the News ... 24
Over 30,000 Bbls. Marketed in Illinois Under Posted Price ... 25
Increase in Demand for Lubricants in 1939 ... *J. P. O'Donnell* 27
Mid-Continent Strike Situation Unchanged ... 28
Oklahoma Stripper Well Association Organized ... 28
Editorial: Asset or Liability? ... 29
Programs and Meetings ... 30
Missouri Studies Oil Possibilities ... 31
Obituaries ... 32
News From State Capitals ... 34
Oil Industry Must Keep Eye on New Congress ... *Henry D. Ralph* 37
Refinery Progress ... 40
Natural Gasoline ... 40
Natural Gas News ... 41
Pipe Line Activity ... 41
International News ... 42

Engineering—Operating

Otis, Kansas, Gas Processed for Marketing at New Plant ... *Harry F. Simons* 44
Safety—Inclosed Tong Weights ... 46
Metal Progress ... *W. L. Nelson* 48
Operating Ideas ... 50
New Absorptive Capacity Test for Gasoline Plant Operation ... *D. B. Johns* 53
Production Economics of Vital Importance in Smackover ... *George Weber* 57
Problems From Readers ... *L. G. E. Bignell* 59
Questions on Technology ... *C. K. Francis, Ph.D.* 60

Field Operations

Field Operations Summarized ... 63
Illinois-Kentucky-Ohio ... 64
Kansas ... *Dal Dalrymple* 67
Eastern Fields ... *Staff Correspondent* 68
Among Drilling Contractors ... 70
Rocky Mountain Area ... *T. R. Ingram* 72
North and East Texas ... *D. H. Stormont* 76
Gulf Coast ... *Neil Williams* 78
West and Central Texas and Panhandle ... *D. H. Stormont* 82
Louisiana and Arkansas ... *George Weber* 83
Southwest Texas ... *F. L. Singleton* 84
California ... *L. P. Stockman* 86
Oklahoma ... *Dal Dalrymple* 89
Michigan ... *Otto C. Pressprich* 92
Canada ... *Victor Lauriston* 92

Markets and Prices

Key to Abbreviations ... 93
Wildcats ... 93
Group 3 Market ... *T. F. Smiley* 102
New York Market ... *H. Stanley Norman* 103
A.P.I. Refinery Report ... 103
Tank-Wagon Market ... 104
Refinery Prices ... 105
Crude Prices ... 106

Additional Features

Personal Paragraphs ... 100
Record of Oil Securities ... 107
Equipment News ... 108
Classified Advertising ... 110
Advertisers' Index ... 112

SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents each. Back copies, when over a year old, 50 cents. CHANGES OF ADDRESS reaching the Tulsa office of the Journal by Saturday take effect with the following issue.

Copyright, 1939, by The Petroleum Publishing Company

BAKER CEMENT WASH-DOWN WHIRLER FLOAT SHOE

ALL SIGNS POINT TO

BAKER CEMENT RETAINER

Baker Cement Whirler Float Collar with Solid Bottom Baffle with Metal "Petal" Basket

BETTER CEMENTING

WHEN THESE BAKER

PRACTICAL AND DEPENDABLE

CEMENTING DEVICES ARE USED

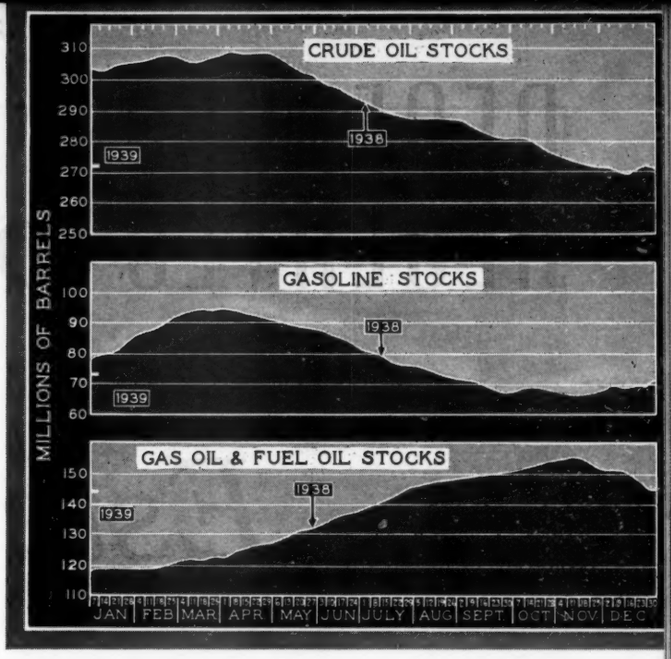
BAKER OIL TOOLS, INC.

HUNTINGTON PARK, CALIFORNIA HOUSTON, TEXAS

SEE THE BAKER SECTION IN YOUR 1939 COMPOSITE CATALOG

Trends

Production on Even Keel; Restore Michigan Prices; Weather a Market Factor



A DECREASE of 19,250 bbls. per day in the average daily production of crude oil in Oklahoma last week was overbalanced by an increase of 22,949 bbls. per day in Texas, but an increase of 7,750 bbls. per day in California was more than offset by a drop of 11,950 bbls. per day in Kansas. Minor ups and downs in other producing divisions aided in bringing the total production in the United States in the two successive weeks almost to a level.

CRUDE PRODUCTION *3,206,392 barrels daily average — down 435. One year ago 3,436,483 barrels.*

CRUDE STOCKS *271,718,000 barrels as of December 24—up 1,787,000. One year ago 303,294,000 barrels.*

GASOLINE STOCKS *72,818,000 barrels as of January 7—up 1,123,000. One year ago 76,990,000 barrels.*

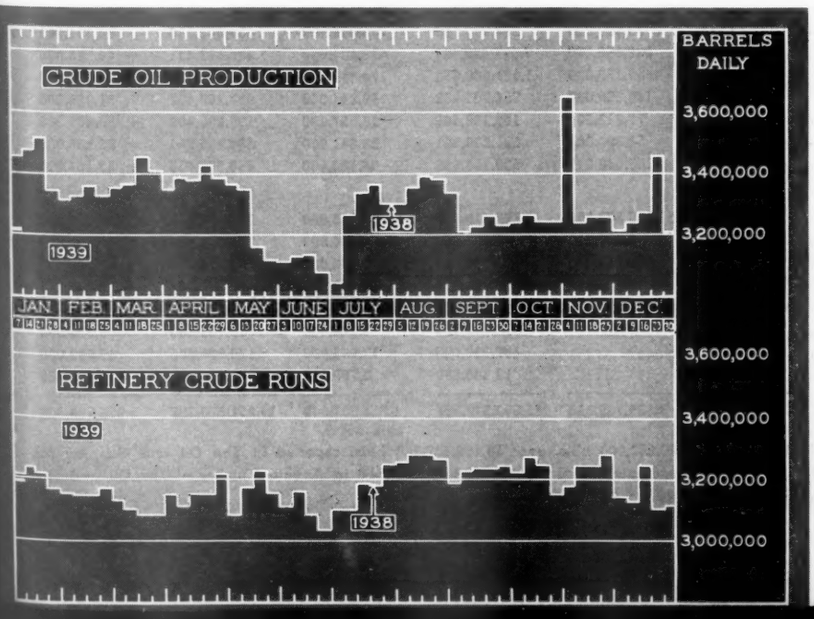
GAS AND FUEL OIL STOCKS *143,333,000 barrels as of January 7 — down 1,490,000. One year ago 117,585,000 barrels.*

REFINERY RUNS *3,170,000 barrels daily week ending January 7 — up 55,000. One year ago 3,210,000 barrels.*

Mild winter weather in Illinois has enabled operators in that state to pursue field work on a mid-summer basis, and the state continued to lead all divisions in the country in wells completed and in drilling operations, but production of the basin fields fell off for the second successive week, indicating that the pipe lines were tightening on runs from leases. About 25 per cent of the crude is going to market at prices below those posted. A new pool in central Washington County (which adjoins producing counties on the north and east of it), was the feature of the week in the state. The discovery well is not yet a completion, and its potentiality will not be known until the sand has been given a shot. The well pumped 39 bbls. in 10 hours, and filled the lease storage.

Michigan production was again cut down, and the marketing situation there was relieved on January 6 by a 14-cent increase in the price of crude in central Michigan fields, restoring the price that had prevailed up to December 19. The Freeman field will have a market for 10,000 bbls. per day for at least 10 days. The Bloomingdale field in southwestern Michigan is experiencing a decline in flush production and is further troubled by appearance of water in town-lot wells.

California oil men, in the face of more or less opposition, are doing their utmost to get production down to the Bureau of Mines estimate of demand and to keep it there. California is without an oil conservation law that will assist in this movement, and whatever results are obtained must be through voluntary action. The approaching tidelands drilling campaign will add about 100 wells to the Wilmington field and may make it difficult to keep production down in that area.



DAILY AVERAGE PRODUCTION FOR WEEK

	Jan. 7, 1939	Bur. Mines Jan. est. of demand	Dec. state allowables	Dec. 31, 1938
Oklahoma City	74,300	.....	.....	97,425
Fitts	33,100	.....	.....	32,375
Remainder of state	295,275	.....	.....	292,125
Total Oklahoma	402,675	499,700	428,000	421,925
East Texas	371,950	.....	.....	373,339
West Texas	203,849	.....	.....	199,229
North Central Texas	106,349	.....	.....	107,106
Texas Panhandle	69,950	.....	.....	60,235
East Central Texas	95,146	.....	.....	88,139
Gulf Coast Texas	339,299	.....	.....	339,326
Southwest Texas	102,948	.....	.....	102,168
Total Texas	1,292,491	1,332,900	1,319,542	1,269,542
North Louisiana	71,720	.....	.....	66,775
Gulf Coast Louisiana	190,200	.....	.....	193,239
Total Louisiana	261,920	241,900	251,340	260,014
California	622,500	588,400	600,000	614,750
Kansas	137,150	153,900	153,900	149,100
Arkansas	50,565	49,000	.....	49,690
Eastern fields	91,750	92,900	.....	91,500
Illinois	136,784	86,100	.....	136,800
Michigan	45,887	47,400	.....	48,116
New Mexico	98,160	95,800	95,800	98,130
Rocky Mountain area	66,510	82,600	.....	67,260
Total United States	3,206,392	3,270,600	.....	3,206,827

Weather conditions were a major factor in the refinery market. Prolonged mild temperatures throughout most of the Mississippi Basin kept buying of heating oils at a low level and on the eastern coast halted their advance. In the latter region the interruption is expected to be brief, but anxiety is expressed by refiners in the interior, where the slow market has forced plants with limited storage facilities to grant concessions for quick movement. The over-all picture is not regarded as alarming, since more than two-thirds of the country's stocks are on the Pacific Coast, where falling exports have caused swollen inventories.

RESERVES of Crude Oil Establish NEW HIGH

By L. G. E. Bignell

Crude oil reserves in the United States on January 1 totaled 14,351,520,297 bbls., the largest proven underground supply in the history of the industry.

The reserves found in 18 states represent an increase of 862,062,353 bbls. over the total reported a year ago. This gain is accounted for by revisions of estimates reported for old fields discovered previous to 1938 and by entirely new discoveries in 1938.

A year ago, reserves of 13,489,457,944 bbls. were reported. The reserve estimates for existing fields are constantly changing, due to new developments; and in this year's report, as shown in the accompanying table, the figure for January 1, 1938, is revised upward to 13,975,816,944 bbls. The addition of 486,359,000 bbls. is largely accounted for by increased reserves credited to fields in Texas.

Considering 1938 alone, the year brought new discoveries which at the start of this year represented new oil reserves of 1,589,760,353 bbls. This exceeded by 375,703,353 bbls. the preliminary estimated 1938 production of the United States totaling 1,214,057,000 bbls.

These data, summarized, mean that new developments in old fields added 486,359,000 bbls. to proven reserves, while the reserves of 1938 fields exceeded production by 375,703,353 bbls., making a total gain of 862,062,353 bbls. for the year.

Illinois Outstanding

Additions to reserves in Illinois are outstanding in this year's report. The new fields in Illinois discovered last year are given a total reserve figure of 198,581,000 bbls. This is a conservative estimate, based on proven areas definitely indicated by completed wells up to the first of this year. Other estimates have assumed that scattered wells indicate that larger proven areas have been established, and this conclusion has resulted in higher proven reserve figures. If 1939 drilling proves that these larger estimates as to the proven areas are correct, it will then be necessary later to revise upward the totals given in this report.

Existing fields in Illinois were given a reserve rating of 38,834,000 bbls. at the start of the year, which, added to the 1938 figures, gives a total of 237,415,000 bbls., as shown in the third column of the accompanying table. The 1938 production was only 22,945,000 bbls., so that the net reserves at the end of the year totaled 214,470,000 bbls. The net gain for the year of 175,636,000 bbls. was 46 per cent of the total gain reported for all of the areas in the United States.

Texas, which ranked second in the net increase reported for 1938, continued to strengthen its position as the state with the largest reserves. A year ago the Lone Star State was credited with 51 per cent of the industry's known oil supply, and this year's data show this has been increased to 52.2 per cent.

Wyoming ranked third in net increase in reserves for 1938. This is largely accounted for by the developments in the Lance Creek area, which now has a major pipe-line outlet to the south terminating at Denver. Kansas with more individual pool discoveries reported than in any other year, added 61,056,000 bbls. to its reserves, which have been steadily increasing over the past three years. Arkansas had the largest addition to its reserves in several years. North Louisiana and Coastal Louisiana reported several discoveries whose reserves exceeded the production reported for the state in 1938.

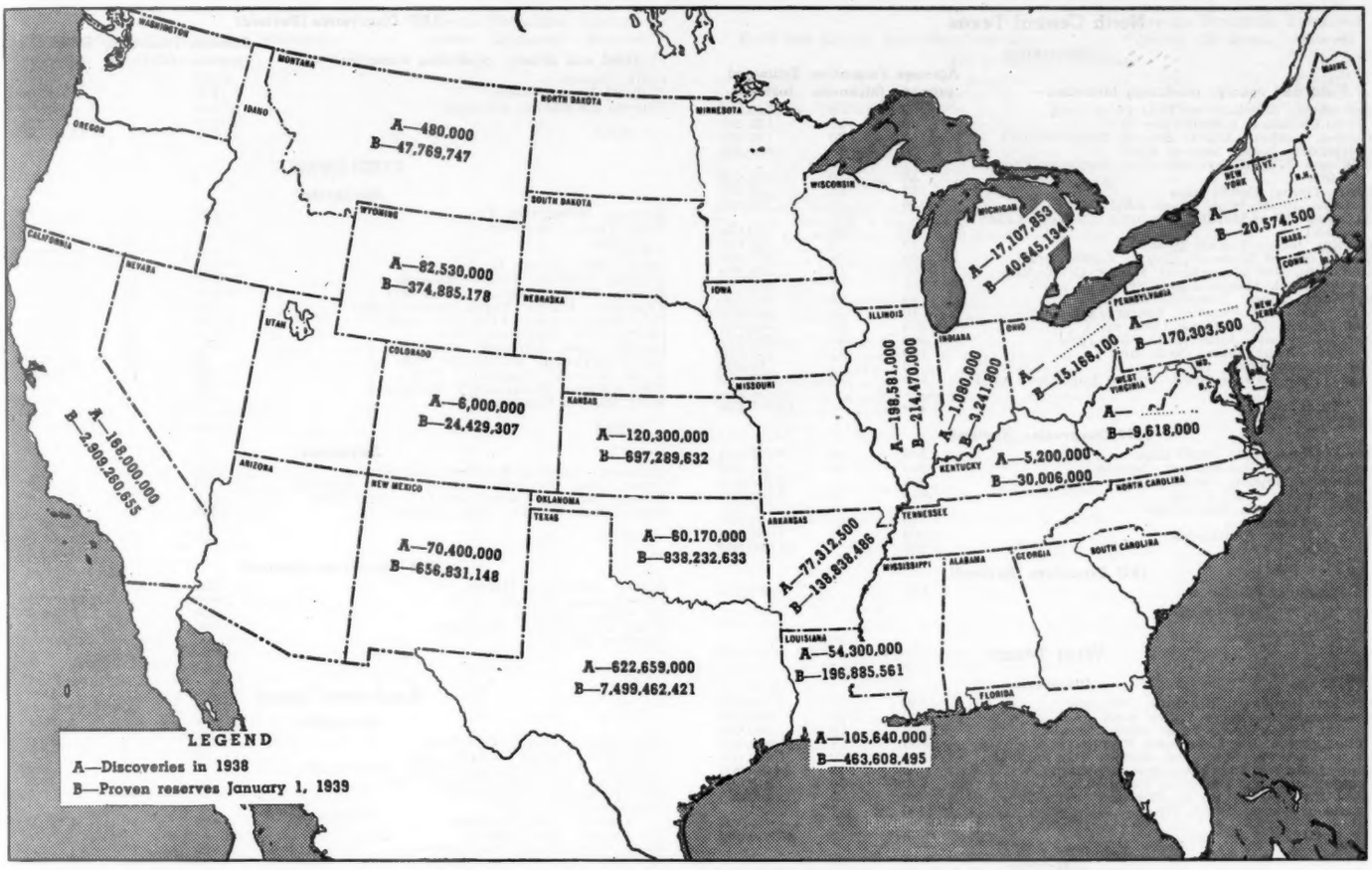
The reduction in Oklahoma's net reserves was not as large as in 1937, but the loss of 114,198,000 bbls. far exceeded any other state. It is probable that within the next year a revision upward in the remaining reserves represented in some of the older fields of Oklahoma will be justified. This is particularly true in the shallow sand areas centering in Nowata County. Successful water-flooding projects unquestionably have added materially to the ultimate recovery of these old fields, which cover a wide area in Oklahoma; and in the near future the additions due to improved methods of recovery should be included in the states's reserve totals.

So far as possible a uniform method of estimating reserves of new pools and changes in old fields was carried out by representatives of The Oil and Gas Journal in all parts of the United States. New pools were listed showing discovery date, number of wells completed to the end of the year, the proven acreage and producing formation. The reserves were determined on a basis of the probable production to be recovered per acre-foot.

Known Reserves of Crude Oil in United States as of January 1, 1939—New Discoveries and Production for 1938

STATES—	REVISED PROVEN RESERVES* JAN. 1, 1938	NEW DISCOVERIES 1938	RESERVES PLUS DISCOVERIES	PRODUCTION 1938 ESTIMATED†	PROVEN RESERVES JAN. 1, 1939	CHANGES‡ INCREASE (+) DECREASE (—)
California	2,989,819,655	168,000,000	3,157,819,655	248,559,000	2,909,260,655	— 80,559,000
Rocky Mountain:						
Wyoming	311,726,178	82,530,000	394,256,178	19,371,000	374,885,178	+ 63,159,000
Montana	52,114,747	480,000	52,594,747	4,825,000	47,769,747	— 4,345,000
Colorado	19,753,307	6,000,000	25,753,307	1,324,000	24,429,307	+ 4,676,000
Central and Southern States:						
New Mexico	622,440,148	70,400,000	692,840,148	36,009,000	656,831,148	+ 34,391,000
Texas	7,355,237,421	622,659,000	7,977,896,421	478,434,000	7,499,462,421	+144,225,000
Oklahoma	952,430,633	60,170,000	1,012,600,633	174,368,000	838,232,633	—114,198,000
Kansas	636,233,632	120,300,000	756,533,632	59,244,000	697,289,632	+ 61,056,000
Arkansas	79,822,986	77,312,500	159,195,486	18,357,000	138,838,486	+ 58,955,500
N. Louisiana	170,926,561	54,300,000	225,226,561	28,341,000	196,885,561	+ 25,959,000
Coastal La.	424,501,495	105,640,000	530,141,495	66,533,000	463,608,495	+ 39,107,000
Eastern States:						
Illinois	38,834,000	198,581,000	237,415,000	22,945,000	214,470,000	+175,636,000
Indiana	3,119,800	1,080,000	4,199,800	958,000	3,241,800	+ 122,000
Kentucky	30,579,000	5,200,000	35,779,000	5,773,000	30,006,000	— 573,000
Michigan	42,672,281	17,107,853	59,780,134	19,135,000	40,645,134	— 2,027,147
New York	25,668,500	.....	25,668,500	5,094,000	20,574,500	— 5,094,000
Ohio	18,492,100	.....	18,492,100	3,324,000	15,168,100	— 3,324,000
Pennsylvania	187,986,500	.....	187,986,500	17,683,000	170,303,500	— 17,683,000
W. Virginia	13,398,000	.....	13,398,000	3,780,000	9,618,000	— 3,780,000
Total	13,975,816,944	1,589,760,353	15,565,577,297	1,214,057,000	14,351,520,297	+375,703,353

*Includes additions totaling 486,359,000 bbls. over 13,489,457,944 bbls. reported in The Oil and Gas Journal, January 27, 1938. †Preliminary estimate. Final report will be published in Annual Number of The Oil and Gas Journal, January 28, 1939. ‡Based on 1938 discoveries only.



DETAILED ESTIMATES OF DISCOVERIES AND EXTENSIONS BY POOLS

CALIFORNIA

Discoveries

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Aliso Canyon, Los Angeles; Pico formation	50	570	1,000,000
Canfield Ranch, Kern; Stevens zone	10	70	500,000
Coles Levee, Kern; Stevens zone	100	145	5,000,000
Tupman, Kern; Upper Miocene age	100	268	5,000,000
Wasco, Kern; A-2 sand	150	40–60	5,000,000
Coalinga Eocene, Fresno; Avenale zone	500	300	25,000,000
Total	910		41,500,000

Extensions

Northwest Long Beach, Los Angeles	75	150	1,500,000
Rio Bravo, Kern	600	300	25,000,000
Montebello Extension, Los Angeles	100	50-300	5,000,000
Canal, Kern	75	200	5,000,000
Torrance-Harbor City, Los Angeles	500	225	5,000,000
Rosecrans, Los Angeles; O'Dea zone	(*)	150	5,000,000
Ventura Avenue, Ventura	(*)	.....	5,000,000
Wilmington, Los Angeles	2,500	100-1500	75,000,000
Total	3,910		126,500,000

*Deep zone extension; no additional acreage.

ROCKY MOUNTAINS

Discoveries

WYOMING:			
Cole Creek, Natrona; Lakota (lower Cretaceous)	200	33	3,000,000
North Big Hollow, Albany; Muddy sand	40	30	40,000
Total	240		3,040,000
MONTANA:			
North Cut Bank, Glacier; Moulton ss.	160	+22	800,000
COLORADO:			
(None.)			

Extensions

WYOMING:			
Lance Creek, Niobrara:			
Sundance	2,270	.....	34,050,000
Converse	800	.....	8,000,000
Leo	5,000	.....	30,000,000
Osage, Weston; Newcastle	10,320	.....	6,000,000
Frannie, Park; Tensleep	560	.....	4,480,000
Total	18,950		82,530,000
MONTANA:			
West Kevin, Toole; Madison	320	.....	480,000
COLORADO:			
Hiawatha, Moffat; Wasatch	600	.....	6,000,000

NEW MEXICO

Extensions

Cooper, Lea; lime	120	....	600,000
Lynn, Lea; Permian sand	200	....	1,200,000
Lynch, Lea; White lime	120	....	600,000
Eunice, Lea; White lime	1,560	....	7,800,000
Hardy, Lea; Permian sand	1,320	....	7,920,000
South Eunice, Lea; White lime	800	....	4,000,000
Langlie, Lea; Permian sand	1,440	....	8,640,000
Mattix, Lea; Permian sand	920	....	5,520,000
Penrose, Lea; Permian sand	2,040	....	12,240,000
Skelly, Lea; White lime	320	....	1,600,000
Hobbs, Lea; White lime	80	....	400,000
Jal, Lea; White lime	160	....	800,000
Vacuum, Lea; White lime	2,600	....	13,080,000
Monument, Lea; White lime	680	....	3,400,000
Artesia, Grayburg, Jackson, Maljamar, Eddy; upper San Andres	440	....	2,600,000
Total	12,800		70,400,000

TEXAS

East Texas

Discoveries

Parsons (John Gossel Sur.), Anderson; upper Woodbine	40	.....	20,000
Navarro Crossing, Houston; Woodbine	200	.....	200,000
Bradley, Smith; Glen Rose	40	.....	24,000
Bane (SE of Keechi), Leon; Woodbine	40	.....	80,000
East Texas extensions, Woodbine	1,000	.....	6,000,000
Total	1,320	.....	6,324,000

1937 Discoveries (Revised)

Flagg Lake, Henderson; Woodbine	240	6	480,000
Collinsville, Grayson; Woodbine	160	.....	160,000
Bolivar, Denton; Cisco	160	.....	160,000
Lott, Falls; Cisco	40	.....	40,000

1937 Extensions (Revised)

Rodessa, Marion and Cass; L. Glen Rose	6,400	15	75,800,000
Cayuga, Anderson-Henderson; Woodbine	1,000	30	10,000,000

North Texas

Discoveries

Hull-Silk, Archer; 3,800-ft. sand, lower Strawn	640	43	4,800,000
Hull-Silk, Archer; 4,300-ft. sand, Bend	1,000	35	4,500,000
Canyon sand, Archer; Canyon sand	1,500	15	4,500,000
Walnut Bend, Cooke; Strawn	80	30	400,000
Myers (N of Jacksboro), Jack; Bryson sand	40	18	80,000
Castlebury (deep), Wilbarger, Milam sand	80	20	240,000
Phillips & King, Way, Wilbarger; (?)	.....	.....	.....
Bryson extension, Jack; Strawn-Pa.	1,500	.....	.....
Total	4,840		23,070,000

1937 Discoveries (Revised)

K.M.A., Wichita-Archer; K.M.A. lime	70,000	100	525,000,000
Rock Crossing (deep), Wilbarger; L. Canyon	300	30	600,000
Castlebury, Wilbarger; Dyson sand	80	15	240,000
Zweifel, Young; Caddo lime	160	6	64,000

1937 Extensions (Revised)

Archer County	1,000	10	2,000,000
Montague County	500	20	1,000,000

North Central Texas

Discoveries

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Ivy (deep), Shackelford; Palo Pinto lime	200	+9	1,500,000
Oplin, Callahan; Ellenburger lime	40	+21	120,000
Pardue, Haskell; Adams Branch lime	60	+20	180,000
Chittenden, Jones; base of Cisco	100	18	350,000
Williams (NW of Breckenridge), Stephens; Caddo lime	40	30	220,000
Dean, Young; Caddo lime	160	25	800,000
Steffens, Jones; Bluff Creek sand	340	21	1,700,000
Andrews (W of Moran), Stephens; Eastland Lake sand	40	20	160,000
Hamby, Jones; Tannehill sand	40	(?)	150,000
Sewell (SE of Graham), Young; Caddo lime	60	(?)	360,000
McKnight (SW of Graham), Young; Caddo lime	100	13	550,000
Noodle Creek (deep), Jones; Swastika sand	160	17	860,000
Pritchard, Jones; Tannehill sand	80	15	240,000
Wray (SW of Newcastle), Young; Caddo lime	80	70	400,000
Nail Ranch, Shackelford; Cook sand	200	15	1,000,000
Avoca Townsite, Jones; Palo Pinto lime	500	50	3,500,000
Steffens (deep), Jones; Cook sand	100	(?)	450,000
Carlisle, Stonewall; (?)	40	7	60,000
Stewart (D. Dawson Sur.), Young; Larrimore sand	100	15	200,000
Total	2,440		12,800,000

1937 Discoveries (Revised)

Avoca, Jones; Palo Pinto lime	1,300	60	9,750,000
Ivy (shallow), Shackelford; Canyon	200	20	600,000
Orlando extension, Jones	600	.....	4,200,000
Lewis, Jones; Bluff Creek	640	12	3,200,000
Leeroy, Eastland; Ellenburger	480	9	480,000
Martin, Young	40	15	120,000
James, Young; Smithwick	2,000	27	4,000,000
Total	5,260		22,350,000

1937 Extensions (Revised)

Jones County extension	500	.....	2,000,000

West Texas

Discoveries

Crockett, Crockett; Big lime, Permian	750	12	4,500,000
Shearer, Pecos; Pecos Valley sand	320	—32	800,000
Payton, Pecos-Ward; Yates sand, Permian	2,500	70	7,500,000
Dunes, Crane; Big Lake lime, Permian	1,800	75	14,400,000
Frick-Osage (W. Seminole), Gaines; Big lime, Per.	160	60	1,360,000
Holt, Andrews; Big Lake lime, Permian	80	70	480,000
Emma, Andrews; Big lime, Permian	640	—50	3,840,000
West Ira (Spears), Surry; Big lime, Permian	80	30	480,000
Swenson, Garza; Penn. (?)	40	7	.....
Total	6,370		33,360,000

Extensions

Harper, Ector; Big Lake lime	4,500	120	13,000,000
White Baker, Pecos	200	10	600,000
North Cowden, Ector, Big lime	1,200	20	8,400,000
Pennwell, Ector, Crane; Big lime	800	40	8,000,000
Sand Hills, Crane; Big lime	1,000	50	7,500,000
Waddell, Crane; Big lime	600	40	6,000,000
Total	8,300		43,500,000

1937 Extensions (Revised)

Seminole, Gaines; Big lime	3,500	60	29,750,000
Scanlon, Dawson	40	..	abandoned
Wasson-Denver, Gaines; Big lime	40,000	130	320,000,000
Slaughter, Hockley; Blaine lime	10,000	70	50,000,000
Herrington (McCamey), Upton; Big Lake lime	160	30	1,600,000
Harper, Ector; Big Lake lime	4,500	120	39,500,000

Texas Panhandle

Discoveries

Pama extension, Gray; Big lime series	80	100	320,000

1937 Extensions

Hutchinson County	1,100	.....	3,850,000
Carson County	3,000	.....	10,500,000
Combs-Worly, Gray County	800	.....	2,800,000
Total	4,900		17,150,000

Texas Gulf Coast

LOWER DISTRICT

Discoveries

Alfred, Jim Wells; Pettus sand	60	8	300,000
Bandera, Jim Wells; Frio-Vicksburg	160	10	160,000
East White Point, San Patricio; Frio	400	10	4,000,000
La Rosa, Nueces:			
5,400-ft. sand, Frio-Vicksburg	600	10	18,600,000
5,900-ft. sand, Frio-Vicksburg		10	
6,300-ft. sand, Frio-Vicksburg		10	
North Agua Dulce, Nueces; Heterostegina	40	30	120,000
North Normanna, Bee; Pettus sand	10	13	20,000
Sareo Creek, Goliad; Vicksburg	20	9	40,000
South and East Alice, Nueces; Frio-Vicksburg	3,500	15	63,500,000
Tulsita, Bee; Pettus	10	8	20,000
Turkey Creek, Nueces; Catahoula-Heterostegina, Frio	1,200	15	14,400,000
South and East Alice, Nueces; Frio-Vicksburg	3,500	15	63,500,000
Westlaco, Hidalgo; Frio	40	15	60,000
Total	6,040		101,220,000

Extensions

East Premont, Jim Wells:			
5,300-ft. sand, Frio	40	10	40,000
5,600-ft. sand, Frio	40	10	40,000
Keeran, Victoria (4,500-ft. NW extension):			
7,000-ft. sand, Frio	40	10	400,000
Saxet, Nueces:			
7,200-7,300-ft. sand, Frio	20	10	150,000
9,900-10,000-ft. sand, Frio-Vicksburg	10	15	15,000
Total	160		645,000

1937 Extensions (Revised)

McCampbell (deep sand), Aransas	1,300	.....	13,280,000

1937 Discoveries (Revised)

Luby, Nueces	1,200	.....	15,000,000
Richard King, Nueces	170	.....	680,000
Placedo Extension, Victoria	125	.....	625,000
Total	1,495		16,305,000

UPPER DISTRICT

Discoveries

Armour, Matagorda; Frio	100	30	2,500,000
Cedar Point, Chambers:			
Miocene	600	25	24,000,000
Frio		60	
Clear Lake, Harris; Frio	200	40	6,000,000
Cordole, Jackson; Lower Miocene	150	15	600,000
Eureka, Harris; Yegua (two sands)	1,200	20	24,000,000
Fairbanks, Harris; Yegua (three sands)	3,500	20	70,000,000
Francitas, Jackson; Frio (two sands)	300	16	2,250,000
League City, Galveston; Frio	200	30	6,600,000
Lovell's Lake, Jefferson, Frio	600	15	4,800,000
North Markham, Matagorda; Frio	40	30	1,000,000
South Anahuac, Chambers; Frio	20	10	130,000
West Conroe, Montgomery; Cockfield	20	6	.....
West Ranch, Jackson; Frio	60	12	540,000
Total	6,990		141,880,000

Extensions

Cleveland, Liberty; 9,100-ft. sand, Sparta	20	10	50,000
Green Lake, Galveston; 6,800-ft. sand, Miocene	20	10	50,000
Orange, Orange; 5,500-ft. sand, N flank, Frio	100	20	2,500,000
Segno, Polk; 8,100-ft. sand, Sparta	300	15	5,400,000
Total	440		8,000,000

1937 Discoveries (Revised)

Aldine (Bammel), Harris	600	.....	1,500,000
Friendswood, Harris	2,800	.....	175,000,000
La Belle, Jefferson	300	.....	1,500,000
South Cotton Lake, Chambers	500	.....	2,250,000
Spurger, Tyler	1,200	.....	36,000,000

Southwest Texas

Discoveries

Casa Blanca, Duval; Cole sand	300	8	750,000
Cedro Hill, Duval; Mirando sand	10	9	20,000
Campana, McMullen; Government Wells sand	10	10	20,000
Christman, Burleson; Edwards lime	10	5	10,000
Dunlay, Medina, Serpentine	30	95	60,000
Fitzsimmons, Duval:			
4,300-ft. sand, Cockfield	400	10	4,800,000
3,800-ft. sand, Pettus		7	
Kelsey, Jim Hogg; Frio-Vicksburg	700	10	10,500,000
La Coste, Bexar; Anaeacho lime	30	40	105,600
La Reforma, Starr; Frio	100	55	550,000
Longhorn, Duval; Hockley	10	10	75,000
Los Plachos, Duval; Government Wells	10	5	20,000
Mitchell Lake, Bexar; Austin chalk	20	65	40,000
Munson, McMullen; Mirando	60	10	240,000
Riddle, Bastrop; Dale	40	15	240,000
Rincon, Starr; Frio-Vicksburg	40	18	72,000
San Jose, McMullen; Cole	30	10	80,000
Schaffel, Frio; Austin chalk	10	100	20,000
Spiller, Guadalupe; Austin chalk	30	55	30,000
Sun, Starr:			
4,850-ft. sand, Frio	600	10	9,000,000
5,100-ft. sand, Vicksburg	80	18	1,600,000
Tesora, Duval; Pettus sand	140	10	1,050,000
Walnut Creek, Caldwell; Serpentine	30	15	120,000
North Killam, Webb; Mirando	10	5	80,000
Total	3,460		294,820,000

Discoveries

Samfordyce, Hidalgo; Vicksburg	20	60	120,000
Sweden, Duval (4,000-ft. extension); Hockley	20	20	100,000
Total	40		220,000

1937 Discoveries (Revised)

Ezzell, McMullen	1,200	.....	10,000,000
Los Animas, Jim Hogg	200	.....	400,000
Lundell, Duvall	410	.....	2,460,000
Oilton, Webb	1,370	.....	10,275,000
Rancho Solo, Duvall	110	.....	660,000
South Ricaby, Starr	100	.....	800,000

1937 Extensions (Revised)

Conoco-Driscoll, Duvall	325	.....	2,760,500

OKLAHOMA

Discoveries

Ramsey, Payne; Wilcox	560	40	14,000,000
Okfuskee, Okfuskee; Wilcox	160	11	800,000
Lehmar, Okfuskee; Dutcher	80	15	240,000
Waukomis, Garfield; Marshall	100	20	500,000
West Konawa, Seminole; Senora-Boggy	480	12-17	1,680,000
Clark, Garvin; Pontotoc	100	10	200,000
Freame, Hughes; Wapanucka-Cromwell	160	26	560,000
Hazel, Seminole; Thurman	400	21	1,200,000
Swan, Seminole; Thurman	80	20	240,000
South Hazel, Seminole; Boggy	480	16	1,680,000
East Hazel, Seminole; Thurman	100	15	300,000
Coyle (Goodnight), Payne, Wilcox	1,000	44	5,000,000
Noble, Cleveland; Wilcox	320	18	1,600,000
Meridian, Logan; Wilcox-Dolomite	640	55	4,800,000
Southeast Braman, Kay; Wilcox	640	42	7,680,000
Coline, Stephens; Cisco	25	66	100,000
Mathis, Seminole; Dolomite	160	82	640,000
Vanek, Oklahoma; Wilcox	200	28	1,500,000
Avoca, Pottawatomie; Viola	200	29	600,000
West Little River, Seminole; Wilcox-Dolomite	200	40	1,500,000
North Cromwell, Okfuskee; Cromwell	200	5	600,000
Morris, Hughes; Wilcox	100	11	350,000
Hillsdale, Garfield; Wilcox	640	12	6,400,000
Lease, Okfuskee; Wilcox	100	23	400,000
Tyrola, Seminole; Viola	200	67	800,000
Leverett, Creek; Bartlesville	100	24	300,000
Total	7,425		53,670,000

Extensions

West Konawa, Seminole; Boggy	160	17	.....
Britton (Orphanage), Oklahoma; Wilcox	200	12	900,000

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Maud (Sec. 16-8-5), Pottawatomie; Hunton	200	7	800,000
Avoca-Wilcox, Pottawatomie; Wilcox	160	7	960,000
Sac and Fox, Lincoln; Prue	1,280	70	3,840,000
Total	2,000		6,500,000

KANSAS

Discoveries

Richards, Ellis; Lansing-K.C.	600	75	3,000,000
Hoisington, Barton; Lansing-K.C.	400	60	2,400,000
Lindsborg, McPherson; Viola	640	21	2,240,000
Schroeder, Ellsworth; Arbuckle	1,280	10	10,240,000
Smoky Hill, Russell; Lansing-K.C.	320	20	1,920,000
Sterling, Rice; Chat-Conglomerate	240	34	840,000
Buehler, Reno; Simpson	640	6	3,200,000
Greenvale, Russell; Lansing-K.C.	640	10	3,200,000
West Ellinwood, Barton; Arbuckle	660	6	2,970,000
Bonham, Stafford; Arbuckle	200	14	700,000
Morel, Graham; Arbuckle	640	10	5,120,000
Leesburgh, Stafford; Arbuckle	320	12	1,600,000
South Burnett, Ellis; Arbuckle	640	12	4,480,000
Fischer, Stafford; Arbuckle	480	10	2,400,000
South Sittner, Stafford; Arbuckle	320	7	2,560,000
Odin, Barton; Arbuckle	480	12	2,160,000
Foster, Russell; Lansing-K.C.	320	35	1,120,000
Nunn, Finney; Mississippi	640	51	2,880,000
Heinz-Lansing, Rice; Lansing-K.C.	320	94	1,920,000
North Balta, Russell; Arbuckle	640	7	3,200,000
East Big Creek, Russell; Arbuckle	480	12	2,400,000
South Letsch, Russell; Lansing-K.C.	320	50	1,440,000
South Snider, Stafford; Arbuckle	480	10	2,160,000
North Eastborough, Sedgwick; Viola	480	8	2,160,000
Blue Hill-Wilcox, Ellis; Wilcox	120	60	420,000
Wolf, Barton; Arbuckle	320	27	1,280,000
Max, Stafford; Arbuckle	320	10	1,920,000
Michel-Topeka, Russell; Topeka	80	25	240,000
Lake City-Arbuckle, Barber; Arbuckle	640	3	5,120,000
Dunbar, Cowley; Lansing-K.C.	320	15	1,440,000
Heinz-Arbuckle, Rice; Arbuckle	320	11	1,440,000
Rattlesnake, Stafford; Lansing-K.C.	640	33	4,160,000
West Wenke, Rice; Arbuckle	320	5	1,440,000
Fike, Rooks; Lansing-K.C.	160	6	480,000
Schneider, Russell; Arbuckle	640	10	4,480,000
Wilson, Cowley; Arbuckle	320	3	1,280,000
Roxbury, McPherson; Chat	160	5	640,000
Prusa, Barton; Arbuckle	640	17	3,840,000
Hesston, Harvey; Misener	320	13	1,120,000
Hagan, Barton; Arbuckle	640	7	2,880,000
Shepherd, Kingman; Tonganoxie	640	10	1,920,000
Total	18,780		100,410,000

Extensions

Stumps, Ellsworth; Arbuckle	160	30	480,000
South Trapp-Lansing, Barton; Lansing-K.C.	640	6	2,880,000
Vaughn-Gorham, Russell; Gorham sand	400	8	1,800,000
Hittle-Arbuckle, Cowley; Arbuckle	960	15	6,720,000
Hoisington-Arbuckle, Barton; Arbuckle	320	5	1,440,000
Lerado-Lansing, Reno; Lansing-K.C.	320	3	960,000
Weathered-Mississippi, Cowley; Mississippi	320	147	1,920,000
Burrton-Wilcox, Reno; Wilcox	80	4	240,000
Frog Hollow, Cowley; Bartlesville	300	34	1,050,000
Kruse-Lansing, Rooks; Lansing-K.C.	320	142	960,000
Letsch, Russell; Lansing-K.C.	240	45	1,440,000
Total	4,060		19,890,000

ARKANSAS

Discoveries

Magnolia, Columbia; Smackover lime	300	100	9,400,000
Village, Columbia; Smackover lime	250	65	1,250,000
Total	550		10,650,000

Extensions

Buckner, Columbia; Smackover lime	1,000	40	9,000,000
Rodessa, Miller; lower Glen Rose	2,250	35	7,500,000
Schuler, Union:			
Jones sand, lower Travis Peak	3,060	60	40,500,000
Reynolds lime, Smackover lime	1,250	90	5,000,000
Morgan sand, lower Travis Peak	110	20	4,500,000
Snow Hill, Ouachita; Smackover lime	100	15	100,000
Champagnolle, Union; Crain sand	50	10	62,500
Total	7,820		66,662,500

NORTH LOUISIANA

Discoveries

Cotton Valley, Webster:			
"D" sand, lower Marine	200	20	900,000
Bodcaw sand (oil), lower Marine	160	15	560,000
Shreveport, Caddo; Pettit lime	2,000	15	12,000,000
Blue Lake, Sabine; Paluxy lime	50	10	40,000
Total	2,410		13,500,000

Extensions

Cotton Valley, Webster; Bodcaw sand, lower Marine	10,200	45	40,800,000

GULF COAST LOUISIANA

Discoveries

Bancroft, Beauregard; Cockfield	300	30	6,000,000
Bay Baptiste, Terrebonne; Miocene	40	15	200,000
Bayou Delarge, Terrebonne; Miocene (?)	40	15	200,000
Bird Island, Plaquemines; Miocene	100	25	1,500,000
Chacahoula, La Fourche; Miocene	80	70	2,800,000
Chalkley, Cameron; Marginulina	40	10	100,000
Convent, St. James; Miocene	40	15	400,000
Creole, Cameron; Miocene	100	25	1,500,000
Golden Meadows, La Fourche; Miocene	40	20	480,000
Jefferson Island, Iberia; Miocene	80	30	2,400,000
North Tepetate, Acadia; Marginulina	200	30	1,000,000
Raceland, La Fourche; Miocene	200	50	8,000,000
South Houma, Terrebonne; Miocene	40	15	800,000
Timballer Bay, La Fourche; Miocene	40	20	1,000,000
University, East Baton Rouge; Miocene	120	15	1,440,000
West Gueydan, Vermilion, Marginulina	40	10	400,000
West Lake Verret, St. Martin; Miocene	40	10	600,000
Woodlawn, Jefferson Davis; Marginulina	100	10	1,000,000
Total	1,540		29,820,000

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
1937 Extensions (Revised)			
Lake Long, La Fourche; upper Miocene	500	10	20,000,000
North Crowley, Acadia; Heterostegina	400	30	15,000,000
Ville Platte, Evangeline; Sparta	1,000	28	30,000,000

Extensions

Abbeville, Vermilion; 6,400-ft. sand, Miocene	40	20	400,000
Bayou Blue, Iberville 5,200-ft. sand, Miocene	40	10	200,000
Bayou des Allemands, St. Charles; 7,200-ft. sand, Miocene	80	35	2,000,000
Cheneyville, Rapides; 6,250-ft. sand, Wilcox series	40	30	720,000
Choctaw, Iberville; 8,300-ft. sand, Oligocene	40	20	800,000
Garden Island, Plaquemines; 7,200-ft. sand, Miocene	40	20	600,000
Jeanerette, St. Mary; 9,900-ft. sand, Miocene	80	12	80,000
Jennings, Acadia; 7,600-ft. sand, NW flank, Marginulina	40	25	1,200,000
Lake Barre, Terrebonne; 10,500-ft. sand, Miocene	40	60	300,000
Lake Hermitage, La Fourche; 8,700-ft. sand, Miocene	40	20	80,000
Lake Long, La Fourche; 10.200-ft. sand, Miocene	40	10	400,000
Leeville, La Fourche; 6,200-ft. sand, Miocene	40	15	480,000
Leeville, La Fourche; 6,500-ft. sand, Miocene	40	15	480,000
North Crowley, Acadia; 7,200-ft. sand, Marginulina	80	17	1,200,000
North Crowley, Acadia; 7,450-ft. sand, Marginulina	40	10	400,000
South Roanoke, Jeff Davis; 9,800-ft. sand, Marginulina	40	15	300,000
Valentine, La Fourche; 3,800-ft. sand (S. flank), Miocene	40	20	480,000
Valentine, La Fourche; 4,600-ft. sand (S flank), Miocene	40	20	480,000
Valentine, La Fourche; 7,500-ft. sand (W flank), Miocene	40	35	800,000
Valentine, La Fourche; 9,300-ft. sand (S flank), Miocene	40	20	480,000
Charenton, St. Mary; 1,100-ft. sand, Miocene	{	10	
Charenton, St. Mary; 2,600-ft. sand, Miocene	90	10	360,000
Venice, Plaquemines; 3,500-ft. sand, Miocene	40	90	1,800,000
Venice, Plaquemines; 5,600-ft. sand, Miocene	40	100	2,000,000
West Hackberry, Cameron; 6,500-ft. sand (SW flank), Oligocene	40	20	1,000,000
Port Barre, St. Landry; 5,400-ft. sand (W flank), Marginulina	20	18	360,000
Sorrento, Ascension; 900-ft. sand, Miocene	20	20	140,000
Sorrento, Ascension; 1,300-ft. sand, Miocene	20	20	140,000
Tepetate, Acadia; Sparta	20	18	240,000
Big Lake, Cameron; 8,300-ft. sand	150	....	1,275,000
Charenton, St. Mary; 4,900-ft. sand	50	....	600,000
Valentine, La Fourche; 5,400- and 6,100-ft. sand	80	....	2,400,000
Jennings, Acadia; (west flank)	325	....	9,125,000
West Hackberry, Cameron; (deep)	200	....	3,000,000
Total	2,015		34,320,000

ILLINOIS

Discoveries

Clay City (townsite), Clay; McClosky	20	20	50,000
North Flora, Clay; McClosky	160	30	720,000
Olney, Richland; McClosky	300	32	1,800,000
Salem, Marion; Benoist	7,500	35	65,250,000
N. Aden, Wayne; McClosky	300	31	2,100,000
Aden, Wayne; McClosky	50	24	250,000
Dix, Marion; Benoist	640	22	3,520,000
West Clay City, Clay; McClosky	100	21	450,000
Boyleston, Wayne; McClosky	10	26	50,000
Sandoval, Marion; Devonian	10	6(?)	50,000
Wicklund, Richland; McClosky	40	21	200,000
Schnell, Richland; McClosky	40	25	200,000
St. James, Fayette; Benoist	120	25	750,000
Total	9,380		75,390,000

Extensions

Patoka, Marion; Benoist	610	16	1,952,000
Clay City, Clay and Wayne; McClosky	3,028	34	15,140,000
Noble, Richland; McClosky	1,470	30	7,350,000
Cisne, Wayne; McClosky	490	30	2,450,000
Centralia, Marion and Clinton; Benoist	2,240	28	15,680,000
Louden, Fayette; Benoist	9,500	25	59,375,000
Louden, Fayette; Weller	4,250	20	21,250,000
Total	21,588		123,191,000

INDIANA

Discoveries

Heusler, Posey; McClosky	60	....	300,000
Unnamed, Gibson; McClosky	10	....	50,000
Total	70		350,000

Extensions

Prairie Creek, Vigo; Niagaran	180	20	1,080,000

KENTUCKY

Discoveries

Birk City, Henderson and Daviess; McClosky	1,000	28	5,000,000
Spottsville, Henderson; McClosky	40	25	200,000
Total	1,040		5,200,000

MICHIGAN

Discoveries

Edenville, Midland; Dundee	400	7	1,100,000
Monterey, Allegan; Traverse	300	5	219,000
Dorr, Allegan; Traverse	300	4	187,353
Overisel, Allegan; Traverse	650	7	650,000
Freeman-Redding, Clare; Monroe	2,000	5	8,000,000
Stewart, Allegan; Traverse	300	5	470,000
Bloomingdale, Van Buren; Traverse	600	5	750,000
Total	4,550		11,376,853

Extensions

North and South Buckeye, Gladwin; Dundee	610	9.5	2,074,000
Winniger, Gladwin; Dundee	500	10	1,750,000
Salem, Allegan; Traverse	520	8	104,000
Bentley, Gladwin; Dundee	300	21	60,000
West Branch, Ogemaw; Dundee	270	20	513,000
Sherman, Isabella; Monroe	200	4	560,000
Clayton, Arenac; Dundee	150	12.5	600,000
Adams, Adams; Dundee	70	15	70,000
Total	2,620		5,731,000

SPARKS FROM THE NEWS

GOOD START

Kansas, which reported more new discoveries last year than ever before, got away to a good start for 1939 with the successful completion of three wildcat tests last week.

MAYBE SO

The immense stocks of gas and fuel oils are causing anxiety, but as more than two-thirds of them are in California, some market analysts say it is too early for refiners east of the Rockies to get scared.

POLICY CHANGES

This month witnesses the inauguration of new governors in several oil states, which may bring important developments in conservation policies, including changes in administration personnel.

COASTAL ACTIVITY

With important discoveries reported since the first of the year and new wildcat exploration under way, coastal Louisiana is assured an active year.

INVENTORY CHANGES

A withdrawal of 35,000,000 bbls. from tanks aboveground with the addition of 862,062,353 bbls. underground in the form of proven reserves summarizes the crude oil inventory developments for 1938.

LEADER WANTED

Natural gasoline has been dislodged as leader of the refinery market. Refiners are unanimous in pulling hard for motor fuel as its successor.

DIFFERENCE

It is apparent there are differences of opinion between geologists and some of those who have leases to sell as to the limits of the Forest City basin.

BAD PRECEDENT

The Department of Labor has been asked to determine when a pumper is working and when he is not. Many in other lines of work hope that a precedent will not be established.

ONE IN FOUR

Reports now show that approximately one out of every four barrels of crude produced in Illinois is being sold under the posted prices.

BY PIGEON

Pigeons have been added to the industry's communicating system in a Canadian operation.

OIL FLOAT WINS PRIZE

Keystone photo

Standard of California entry in Pasadena Tournament of Roses parade, depicting state's first oil well in Pico Canyon and first refinery at Newhall

ROTARIES IN ARABIA

Plans to have five rotaries operating next month in Saudi Arabia is one of the developments pointing to increased production outside the United States.

MORE CIPHERS

Natural gas producers joined those who established new records last year with an output of 2,500,000,000,000 cu. ft.

TIDELAND OIL

California is confronted with the possibility that 100 tideland wells will be drilled in the Wilmington field, a key area, in the attempt to balance supplies with demand.

Over 30,000 Bbls. Marketed in Illinois Under Posted Price

G. H. Blankenship, operator, and Frank Gifford, drilling contractor, at No. 1 Dennis, Washington County, Illinois

CENTRALIA, Ill., Jan. 9.—Illinois' fast growing oil industry today is pondering two schools of thought to find the answer to marketing and proration problems.

A spirited battle between the opposing factions is inevitable during the session of the legislature begun last week. One group, headed by the Illinois-Indiana Petroleum Association, is sponsoring a bill for legislative regulation of the state's oil industry as a means of alleviating the marketing problem and conserving resources. An organized movement against proration was launched last year at a meeting of representatives of chambers of commerce of southern Illinois cities held in Olney.

Agitation for proration was simmering more than a year ago but it was given a healthy boost by the tremendous increase in production the past year.

Sharp increases in production have forced the principal buyers of crude to clamp down on daily allowables in every field. The Sohio Corp., subsidiary of Standard Oil of Ohio, the chief purchaser of independent operators' production, reduced its per well allowables from 25 to 20 bbls. in Centralia; from 50 to 30 bbls. in the Lake Centralia-Salem pool; from 35 to 30 bbls. in Dix; from 40 to 30 bbls. in Louden, and from 75 to 40 bbls. in east counties of the basin. A representative of the company said Sohio now has approximately 900 connections and is running about 21,000 bbls. of crude daily.

Carter Oil Co., most active operator in the Fayette County fields, is also a purchaser, but will take only 40 bbls. per 10-acre location, in accordance with the company's program of conservation.

Texas Corp., principal operator in the Lake Centralia-Salem pool, takes ratably from its own wells as well as from the few independent connections the company has. Other major operators, including Magnolia and Pure Oil Co. also have their own production outlets.

The Illinois Pipe Line Co., an Ohio Oil Co. subsidiary, sole purchaser in the Patoka and Bartelso fields, announced its daily runs would be reduced 50 per cent. The reduction is to be based on November production. In the Patoka field production in November averaged 2,011 bbls. daily of which 1,600 bbls. was sold by Adams Oil & Gas Co., discoverer of the field. There are 110 producing wells in the field of which 66 are owned by Adams. However, 11 of the producing wells did not make enough oil to run in November. The Patoka field, discovered in January, 1937, had produced 1,111,012 bbls. December 1.

As a result of these reductions independent operators seeking a quick return on their investment have frantically sought additional outlets to unload production.

It is estimated that at least 33,000 bbls. of crude are sold daily to independent refineries by independent operators, at prices from 16 to 25 per cent below the posted price of $1.15.

In addition to Sohio and Carter purchases in Fayette County, Globe Refining Co., of Lemont, Ill., is buying about 6,000 bbls. a day and Allied Refinery at St. Elmo, Ill., is purchasing approximately 3,500 bbls. daily from the fields in the county. Globe has its own gathering system and pipes its oil to Brownstown, Ill., where the crude enters the lines of the Illinois Pipe Line Co. and is carried to the Globe refinery at Lamont. Globe is also the recipient of an estimated 6,000 bbls. daily from the Lake Centralia-Salem field, via tankcars.

Max Pray, an independent operator, has a 3,000-bbl. a day contract with a Canton, Ohio, refinery which he fulfills from his own leases and a few other connections. He has a line from the Fayette County field to the Illinois pipe-line station at Brownstown, and is building another line from the Lake Centralia-Salem field to Sandoval, where another station of the Illinois Pipe Line Co. is located. He reportedly receives 90 cents a barrel from the refinery which pays the pipe line company 31 cents a barrel for transportation.

The Missouri-Illinois Railroad Co. ships an average of 55 cars (240-bbl.) or 13,200 bbls. daily from the Lake Centralia-Salem pool, about a third of which goes to the Globe. The balance is shipped to refineries in Ohio and Louisville, Ky.

The Illinois Central transports approximately 20 cars, or 4,800 bbls. daily from Centralia. A third railroad company, the C.B.&Q., also ships several cars a day.

Manly Oil Corp is purchasing approximately 3,550 bbls. daily from the Lake Centralia field. The company has its own pipe line from the field to Centralia and services the Big Basin refinery. The company's surplus purchases are shipped to other refineries via the C.B.&Q.

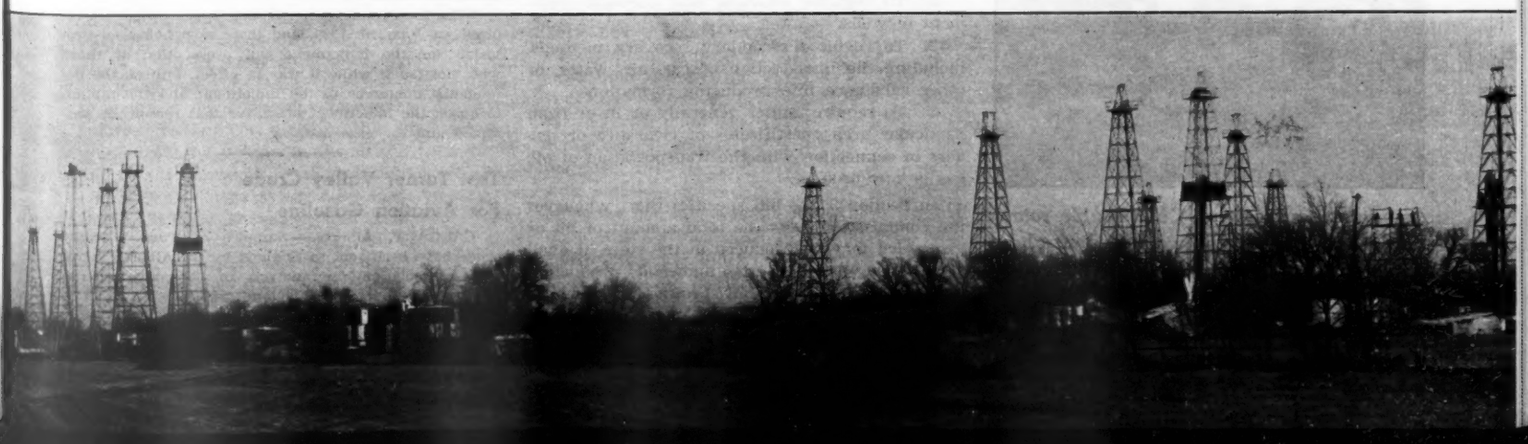
The only other outlets for crude not bought by major purchasers in the west part of the basin, are two other Centralia refineries, which together run approximately a minimum of 2,000 bbls. daily.

In the east part of the basin, including Wayne, Richland, and Clay counties, the Sohio corporation is the only purchaser of independent operators' crude. Texas and Pure Oil handle their own production but reportedly have no independent connections.

Another factor which will undoubtedly make the solution of the marketing problem more perplexing is the discovery of Niagaran lime production at Sandoval. The Southwestern Oil & Gas Co. recently completed its No. 21 Benoist as a producer in this horizon, the first well to produce from the Devonian-Silurian series in that part of the state. In a 19-hour test the well flowed 346 bbls. through casing from a total depth of 2,926 feet.

Several operators are already planning Niagaran tests in the Centralia and Lake Centralia pools,

Sixteen derricks in the Antioch Church area of Lake Centralia-Salem field, Illinois

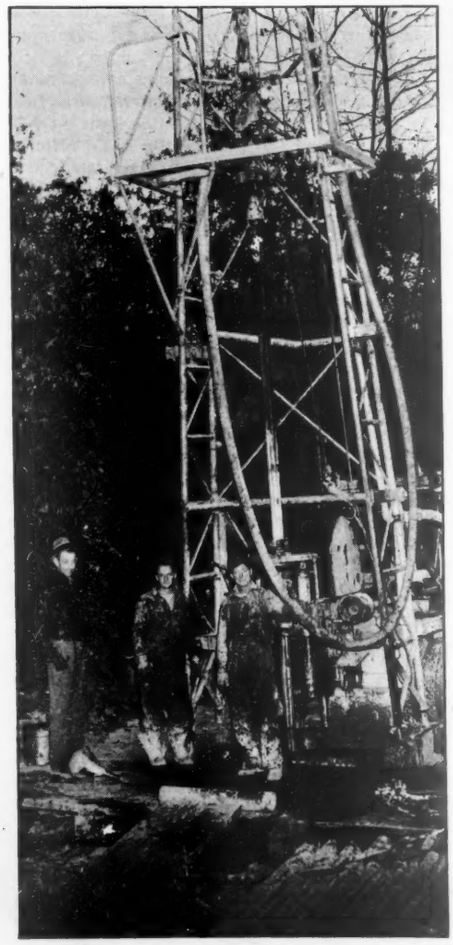


approximately 8 miles south and 6 miles southeast of the discovery well. If tests to the Niagaran in these areas are successful substantial increases above the anticipated yields of the field are inevitable. The Niagaran lime is the seventh formation which has proved productive thus far in Illinois development. Other producing horizons are the Petro, Stein or Cypress, Bethel or Benoist, Aux Vases, Rosiclare, and McClosky. Backers of the movement for proration point to the discovery of the new producing horizon as another reason for immediate steps to conserve the crude supply.

William Bell, retiring president of the Illinois-Indiana Petroleum Association and Illinois representative on the Interstate Oil Compact Commission, said the bill which would set up a state oil commission to prorate oil production when it deemed proration necessary, had been prepared by Prof. W. L. Summers, of the College of Law, University of Illinois.

Mr. Bell declared Illinois operators were already operating under the worst form of proration—that by the buyers. He added the commission would also regulate the spacing of wells which would probably end drilling on church and school lots, on roadways and in cemeteries.

The organization fighting proration, the Illinois Independent Oil Producers and Royalty Owners Association is said to have recently shown a more favorable feeling toward the conservation movement and may go on record as favoring ratable taking. Seven of the 11 directors of the association are said to favor it. Four of the directors are reported opposed to any form of government-imposed regulation. The directors are expected to meet this week and vote on the matter. If the organization reverses its early stand on regulation, the only organized opposition to legislation will have been eliminated.



American Seismograph Co. portable rotary rig drilling in a heavily wooded area about 1 mile south of G. H. Blankenship's Washington County test

G. H. Blankenship No. 1 Dennis, first pool opener in Washington County, was drilled in a setting far different from that found at most Illinois wells. The well is in a heavily wooded area, and is almost inaccessible in rainy weather

The Summers bill, in its present form, specifies that the commission for which it provides, shall have the "jurisdiction and authority of and over all persons and property, including all property of the state or any potential subdivision thereof, necessary to enforce effectively the provisions of the act and all other acts relating to conservation."

In Section 4, the bill requires the operation of wells with efficient gas-oil ratios, and entitles the commission to fix such ratios. Other powers which it proposes to embody in the commission are:

1. To regulate shooting and chemical treatment of wells.

2. To regulate secondary recovery methods, including the introduction of gas, air, water, or other substance into producing formations.

3. To require, either generally or in or from particular areas, certificates of clearance or tenders in connection with the transportation of oil, gas or any product.

In Section 9, the bill specifies that "whenever the commission limits the total amount of oil or gas which may be produced in the state, it shall allocate or distribute the allowable production among the fields." The bill specifies that such allocation or distribution shall be made on "a reasonable basis, giving, if reasonable under all circumstances, to each field with small wells of settled production, an allowable production which will prevent a general premature abandonment of the wells." It also provides that the production of wells shall bear no part of the cost of administration of the act.

Article B, Section 9, reads: "Whenever the commission limits the total amount of oil or gas which may be produced in any pool in this state to an amount less than that which the pool could produce if no restriction were imposed, the commission shall prorate or distribute the allowable production among the producers in the pool on a reasonable basis so as to prevent or minimize reasonably avoidable drainage from each developed area which is not equalized by counter drainage, and so that each producer will have the opportunity to produce or receive his just and equitable share, as above set forth, subject to the reasonable necessities for the prevention of waste."

The bill also provides the commission shall establish a drilling unit or units for each pool except in those areas where development has been carried to an extent where it would be impracticable to use a drilling unit.

"When two or more separately-owned tracts of lands are embraced within an established drilling unit," the bill reads, "the owners may validly agree to pool their interests." Where such owners fail to agree, the commission will require the owners to develop their lands as a drilling unit.

Section 11 of the bill specifies that "no temporary restraining order or injunction of any kind shall be granted against the commission or the members from enforcing any statute of the state relating to the conservation of oil or gas, unless it "shall be clearly shown to the court that the act done or threatened is without sanction of law and that, if enforced against the complaining party, will cause an irreparable damage."

Connally Law Amendment Case to Be Appealed

HOUSTON, Tex., Jan. 10.—The Department of Justice will appeal to the United States Supreme Court from federal Judge T. M. Kennerly's decision to quash an indictment against Renne Allred, Jr., and Neal Powers charged with conspiracy to violate the Connally Hot Oil Act. The prosecutors said they would appeal on a special act which allows the Government to appeal decisions that involve the validity of an act of Congress.

Constitutionality of the federal law, originally passed in 1935 and extended and amended by congress in 1937, was upheld by Judge Kennerly in an order sustaining a general demurrer filed by the defendants. Originally, a violation of the law was a misdemeanor but the 1937 act made it a felony. The law, unless extended by Congress, will expire in June, 1939. The 10 counts charged in the indictment were alleged to have occurred when the first Connally Act was in effect.

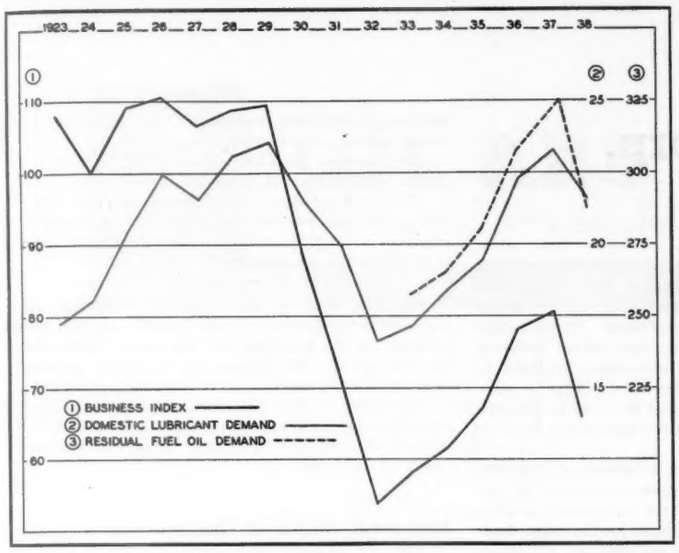
In holding for the defendants, Judge Kennerly's opinion said:

"Viewing the matter from all standpoints, I think it must be held that there is and can be no certainty that Congress, by passing the second Connally Act, intended to preserve the right of the Government to prosecute violations of the first act.

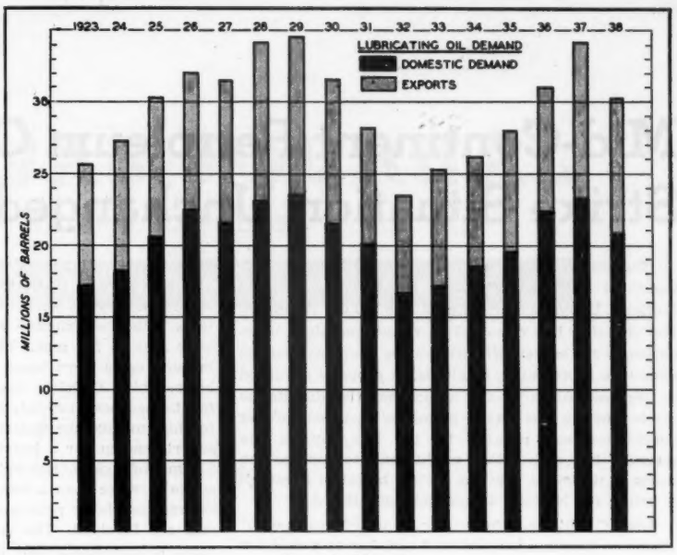
"The first Connally Act having by its own term expired on June 16, 1937, and there now being no provision for the indictment and prosecution of those who violated it while it was in effect, I think the defendants' demurrer to the indictment and the motion to quash the indictment must, for that reason, be sustained and the case dismissed."

Test Turner Valley Crude For Aviation Gasoline

CALGARY, Alberta.—Samples of Turner Valley crude have been sent to England by the Alberta Petroleum Association for analysis to determine if the product is suitable for airplane gasoline.



Graph No. 1



Graph No. 2

Increase in Demand for 1939 Lubricants

By J. P. O'DONNELL

OIL CITY, Pa., Jan. 9.—Since the domestic demand for lubricants has more or less paralleled the index of business activity for 15 years and since present indications point to a continued increase in business activity during 1939 there is that assurance there will be an appreciable increase in the domestic consumption of lubricants this year. So many factors affect lubricant consumption it is difficult to estimate the volume of this increase but, after weighing those factors which apparently exert the greatest influence, it appears that expectations of a minimum increase of 10 per cent in domestic demand are justified. There remains a possibility there will be an even greater increase and if the more optimistic predictions on business recovery are fulfilled there may very well be an all-time record domestic demand.

Domestic consumption in 1938 is estimated at 20,829,000 bbls. This is 10.7 per cent under 1937 and 11.8 per cent under the all-time high of 1929. Thus if the anticipated 10 per cent increase materializes, demand in 1939 will almost equal that of 1937 and if the more optimistic predictions prove to be well-founded and the increase amounts to 12 per cent it will exceed the 1937 total and come close to the peak year, 1929.

In addition to considering the business index, estimators of future lubricant demand also consider it in relation to motor fuel and residual fuel oil consumption since the automotive and industrial fields are the major consumers of lubricants. There has been no parallel between motor oil and lubricant demand. While the former continued to increase during recent recessions, the latter suffered badly. The cause of this condition was pointed out by Sidney A. Swensrud, then assistant to the president, Standard Oil Co. of Ohio, who in an address at the New York meeting of the A.I.M.E. in February, 1932, said: "The consumption of gasoline in 1931 held up very well. The motorist cannot skimp on it and still drive, but unfortunately this is not true of oil. Between the quantity of oil one possibly should use and what one can get by with in a pinch is perhaps the difference between two and one."

Other adverse factors affecting lubricant demand are motor car manufacturers' recommendations of seasonal or other delayed oil changes, the reduction in the number of lubrication points in automobiles and the use of sealed-in or permanent lubricants. Assuming better wage scales for 1939 it is likely there will be less skimping and therefore the increase in motor fuel demand will be more than equaled by the increase in lubricant demand so far as the automobile field is concerned.

The fact that estimates of residual fuel oil consumption envision a gain of as much as 20 per cent in 1939 presupposes there will be a very marked increase in industrial activity. Any such increase will, of course, be reflected in a strong gain in the industrial consumption of lubricants. The mid-December position of the business index in 1938 was approximately 25 points above that of the corresponding time of the previous year, indicating business enters 1939 in a better position than it entered 1938. This has resulted in strong optimism for the first quarter but the year as a whole is viewed with more conservatism. Graph 1 illustrates the relationship between domestic lubricant demand, residual fuel oil demand and the business index.

While there is definite assurance of a better domestic demand there is much doubt as to export demand. Over the past 15 years there has been no definite relationship between the two for in years in which one has increased the other has declined and vice versa (note Graph 2). In estimating total demand for lubricants, the export factor is of great importance as no other petroleum product, with the exception of wax, is so dependent on exports for an outlet. This is shown in Table 1 which contains Bureau of Mines data for the first 10 months of 1938 on domestic, export and total demand and the percentage of total demand accounted for by exports of various petroleum products.

Factors affecting export demand include both the economic and diplomatic positions of foreign countries and the rate of development of foreign refining centers. If business activity continues upward in this country it is probable that it will also improve elsewhere since there is some degree of interdependence. The increase in refining facilities abroad will naturally supply some of the demand that formerly was dependent on American sources of supply. Any marked increase in this trend would be decidedly harmful to the domestic lubricant status.

Assuming therefore a 3 per cent increase in export demand and a 10 per cent increase in the domestic demand, the total demand for lubricants in 1939 will approximate 33,280,000 bbls. This is somewhat under the demand of 1937 but better by far than any other year since the record total set during 1929.

TABLE 1

Product—	Domestic demand	Export demand	Total demand	Export percentage
Gasoline	435,017,000	41,077,000	476,094,000	8.6
Kerosene	44,170,000	6,386,000	50,556,000	12.6
Gas oil, distillate fuel	89,436,000	25,221,000	114,657,000	22.0
Residual fuel oil	235,242,000	14,721,000	249,963,000	5.9
Lubricants	17,682,000	8,024,000	25,706,000	31.2
Wax*	241,132,000	164,541,000	405,673,000	40.5
Coke†	912,600	119,800	1,032,400	11.6
Asphalt†	3,937,400	41,400	3,978,800	1.0

*1,000 pounds. †Short tons.

TABLE 2

Year—	Production	Stocks	Domestic demand	Export demand	Total demand
1923	26,128,000	6,138,000	17,260,000	8,372,000	25,632,000
1924	27,498,000	6,420,000	18,124,000	9,103,000	27,227,000
1925	31,055,000	7,253,000	20,581,000	9,678,000	30,259,000
1926	32,293,000	7,576,000	22,568,000	9,435,000	32,003,000
1927	31,721,000	7,860,000	21,669,000	9,776,000	31,445,000
1928	34,658,000	8,340,000	23,168,000	11,023,000	34,191,000
1929	34,359,000	8,269,000	23,609,000	10,860,000	34,469,000
1930	34,201,000	10,971,000	21,589,000	9,935,000	31,524,000
1931	26,704,000	9,485,000	20,068,000	8,128,000	28,196,000
1932	22,433,000	8,465,000	16,697,000	6,851,000	23,548,000
1933	23,775,000	7,100,000	17,152,000	8,218,000	25,370,000
1934	26,373,000	7,331,000	18,488,000	7,660,000	26,148,000
1935	27,853,000	7,025,000	19,598,000	8,499,000	28,097,000
1936	30,297,000	6,942,000	22,323,000	8,691,000	31,014,000
1937	35,321,000	7,512,000	23,323,000	10,975,000	34,298,000
1938*	25,907,000	7,718,000	17,682,000	8,024,000	25,706,000

*Partially estimated.

Mid-Continent Petroleum Corp. Strike Situation Unchanged

The strike called on December 22 against Mid-Continent Petroleum Corp. in Oklahoma by the Oil Workers Union, an affiliate of the C.I.O., continues. The situation has remained in status quo since negotiations were broken off between the company and the committee representing employes. A proposal advanced by representatives of the union that the dispute be carried before the State Board of Arbitration and Conciliation was rejected by the company on the grounds that such action might tend to confuse the issues in the event that the matter be taken eventually before the National Labor Relations Board.

Leon C. Phillips, who was inaugurated governor of Oklahoma Monday, has deferred arriving at a decision regarding the extension of martial law beyond the areas in West Tulsa now under the control of National Guard troops. He has under consideration the placing of the entire city of Tulsa under martial law. Protests against the presence of troops in West Tulsa have been made by union representatives. Company representatives have asserted that troops are needed to maintain order in the vicinity of the refinery in West Tulsa.

In the field, pipe lines have been blown up at five different points within the past week. Those responsible have not been identified and there is no conclusive evidence this damage has been done by strikers. In cases where the company felt it had definite knowledge that striking employes participated in sit-down action, seizure of property, violence, and intimidation, letters have been sent notifying them their connections with the company were severed. These letters were sent to 140 men. The company stated decisions in such cases were based on information believed to be reliable. Officials explained that where a man felt he had been unjustly accused it would be possible for him to take the matter to his department head or superintendent for a hearing.

On both sides, the opinion is expressed that the strike is more than a local argument since it is considered that labor relations of the oil industry in general are involved. The contesting parties have indicated independently that they are resigned to letting the dispute find its way to the National Labor Relations Board. At the same time it is clear the N.L.R.B. desires to assist in reaching a settlement as soon as possible, which would avoid the necessity of a formal hearing. The Osage Indian Tribe has protested against strike conditions which affect the flow of oil from its lands to the company's refinery. In spite of such interruptions as have occurred, the company states the manufacture of refined products continues at the normal rate and that shipments move freely from the plant; it is further stated that leases and plants of the production and pipe line departments have been in full operation following shut-downs which came at certain points at the beginning of the strike.

What Constitutes Hours Of Work for Pumpers

WASHINGTON, D. C.—The Pennsylvania Grade Crude Association recently asked the wage and hour division of the Department of Labor to rule on what constitutes hours of work for pumpers. The bureau is now engaged in an intensive study of the general question of what should be considered hours worked, but gave a tentative opinion.

From the wording of the opinion it is the understanding that probably the only hours considered as work would be those when the man is actually doing some work, since there is no requirement that he definitely be on the premises a certain number of hours per day. This would do away with the troublesome problem of overtime. It is clear that in the opinion of the department no pumper is on duty 24 hours a day.

The answer received from wage and hour division, said:

"You ask how to calculate the hours worked for pumpers and other employes on stripper wells. We are presently engaged in an intensive study of the general question of hours worked. Any opinion expressed at this time is, therefore, tentative.

"You put the case of a pumper living on the premises of his employer whose only actual work is the oiling of the pump twice daily, but, who, in the event that the pump stops, must start it up again. This man does not need to stay on the property and can go into town as much as he wants. He is, however, at all time subject to call when off the property.

"It is our opinion that an employe who makes his home at his employer's place of business is not necessarily working 24 hours a day because of that fact. If he is free to come and go as he likes, I do not believe that the fact that he is subject to call 24 hours a day, in the event of the stopping of the pump, would mean that he was on duty 24 hours a day within the meaning of the definition of hours worked in the Regulations, Part 516.4. Of course, any time actually worked and any time when he was required to be on the premises would constitute hours worked."

Question also arose whether monthly records might be kept for the purposes of showing compliance with the Fair Labor Standards Act of 1938. Many are now keeping monthly records which it appeared need not be changed to comply with the act, but to be on the safe side the question was presented to the Department of Labor bringing a reply that there is no necessity of keeping the records on any particular form so long as information as to the actual hours worked is obtainable from the records which are kept.

Oklahoma Stripper Well Association Organized

Charles Clowe, independent oil operator of Ardmore, was elected field manager of the recently organized Oklahoma Stripper Well Association at the first meeting of the directors in Tulsa, Tuesday, January 10. He was instructed to begin a statewide membership campaign immediately.

The directors approved an application for a state charter for the association, adopted a budget and discussed problems facing the stripper well operators in Oklahoma. W. A. Goforth, Tulsa, president of the organization, presided. H. B. Fell, Ardmore, executive vice president of the Independent Petroleum Association of America, and Burdette Blue, Bartlesville, president of Indian Territory Illuminating Oil Co., spoke briefly.

Mr. Fell outlined some of the objectives of the association and discussed problems of the industry. "We must seek an equitable share of the market for every producer," he said, declaring that every principle of ratable taking that has been devised is being violated.

The association was organized October 18, 1938, and is affiliated with the National Stripper Well Association. It succeeds a former organization of the same name, which was no more than a loosely united association of various district organizations. The new association is to be a closely-knit group, with permanent officers, a full-time manager and headquarters in Tulsa.

S.E.C. Opens Drive on Unregistered Oil Leases

SAN FRANCISCO, Calif.—Howard Judy, regional administrator of the Securities and Exchange Commission, says the commission has "cracked down" on interstate sale of unregistered oil and gas leases. He considered the step one of "great importance." It brings under S.E.C. purview, he said, "a type of promotion which is well toward the borderline between real estate transactions and securities transactions."

Mr. Judy's statement followed signing of a decree by United States District Judge Michael J. Roche, enjoining several concerns from using the mails and facilities of interstate commerce in sale of oil and gas leases without registration.

Other actions are contemplated, Mr. Judy said, to require registration of this type of security.

"This twilight zone," he commented, "has been a happy hunting ground for unscrupulous promoters who prey upon uninformed members of the public and their desire for quick riches."

DALLAS, Tex.—A wide-spread investigation into the activities of scores of Texas oil companies has been launched by the Securities and Exchange Commission, Forrest Tancer, Washington, D. C., S.E.C. attorney, says. Mr. Tancer made the revelation at the conclusion of a hearing of the S.E.C. at which one company agreed to sell no more stock until it has filed a new registration statement with the S.E.C. and has that statement approved.

Arguments Begun at Chicago In Madison Appeal

CHICAGO, Jan. 10.—The Government charged before the U. S. Circuit Court of Appeals today that Federal Judge Patrick T. Stone of Madison, Wis., was without authority to free 11 of 46 defendants convicted a year ago of conspiracy to "fix" gasoline prices.

John Henry Lewin, special assistant attorney general, asserted Judge Stone lacked authority to grant directed verdicts of acquittal after he had pronounced judgment. Lewin opened arguments on the government's motion to set aside the order freeing the defendants after the court had overruled a motion for a new trial.

Rock Island Refining Co. Purchases Properties

Producing properties of Carter Oil Co. in the Tatums and Sholem Alechem pools in Carter County, Oklahoma, and the Tussy pool in Carter and Garvin counties have been sold to the Rock Island Refining Co., Duncan, Okla., it was announced the past week. The consideration was not divulged. The transfer of property included producing wells, field property and the gathering pipe line system of the Oklahoma Pipe Line Co., Carter affiliate. The Rock Island company previously had taken over some of the Carter connections in the three fields, after the latter company had reduced its takings. The Carter company retains its properties in the deep Fox field and other southern Oklahoma areas where it has concentrated operations.

THE MARKETS*

CRUDE OIL: *Simrall Corp. January 6 advanced its prices for Michigan crude 14 cents, restoring the schedule in effect previous to December 19. This action of Simrall, a Standard of Ohio affiliate, reinstates general parity among principal buyers in the state and may have forestalled a wide break in the crude market. Michigan has been one of the major trouble zones. Illinois continues a source of uneasiness. More than 30,000 bbls. of crude from that state, according to reports, is being sold daily below posted prices.*

REFINERY: *Mild temperatures throughout wide areas have unsettled the heating oil market while encouraging gasoline consumption. Rising inventories in the Mid-Continent are causing concern. Motor fuel shows little life, but prices exhibit a tendency to stiffen. Natural gasoline, following several months of strength, suffered a break and is headed downward. Heavy industrial fuels are holding their improved position. Wax is firm.*

TANK-WAGON AND POSTED DEALER: *Standard Oil Co. of Kentucky reduced both tank-wagon consumer and net dealer prices of gasoline in several areas of Kentucky, Mississippi, and Georgia. Standard of Indiana reduced tank-wagon prices of gasoline 1.2 cents in Detroit.*

FINANCIAL: *A wave of selling carried the oil shares down with the rest. Average of 30 representative stocks for week ending January 7: High, 29.89; low, 28.88; close, 29.09. Week ending December 31: High, 29.66; low, 27.91; close, 29.52.*

**Detailed information in Market Section.*

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Asset or Liability?

The fact that new crude oil discoveries in 1938 exceeded our production by 70 per cent as shown in a special study in this issue of The Oil and Gas Journal is significant from several angles in its relation to current and future operations in the industry.

In the first place, it discounts the prophecies of the alarmists about a shortage of crude.

In a year without the inducement of high prices, a year unfavorable in many respects, the industry nevertheless went out and found new reserves which in effect guarantee against shortage and assure consumers of adequate supplies at prices they could afford to pay.

While this is satisfactory to the consumer, it imposes a necessity upon the industry to balance its operations so that its reserves do not become such a burden that they cause prices to slump to a point where they are below cost of production.

A decrease of 35,000,000 bbls. in aboveground storage which took place last year obviously may not have much market significance in an industry which has added more than three-quarters of a billion barrels to its reserves below the surface.

Lower inventories in storage tanks which place the industry in a statistical situation that unquestionably strengthens its storage position will prove of no value to the industry unless this is accompanied by control of these additional reserves underground.

Let no one mistakingly think that because the oil is underground there is no pressure to liquidate it in the form of current production. The developments of the past two or three years gave plenty of evidence to the force of that statement.

Any operator or group of operators opening a field and establishing a new reserve will desire to produce that oil as quickly as possible at beneficial price levels.

The danger lies in the tendency to overproduce the existing market with the resulting situation in which the price structure of the entire industry is brought down to unprofitable levels.

It is just as apparent that the solution rests in a correlated national program in which no state or area is to have an advantage over another. The price troubles of the industry over the past year have been largely the result of certain areas failing to recognize this fundamental fact in insisting upon the production of their own oil and taking markets away from those who were entitled to a proportionate share.

In this connection there has been a tendency on the part of some operators finding large production in new areas to forget the position of those less fortunate including producers who are stripping the oil from tens of thousands of old wells. The continuance of this policy means price levels which represent losses to a great majority of the industry.

The building up of reserves has been the inevitable result of a conservation method of operation. Proration in the production of these reserves must be observed if this policy is to be continued. The larger the reserve, the more important it becomes that the division of existing markets be equitable, taking into consideration not only those who are in a position to benefit temporarily from production of flush fields but the far greater number who are responsible for more than 85 per cent of today's total supply.

The industry has not properly understood the significance and danger in building up large underground reserves which, while desirable as a contributory factor in stabilization, unless properly controlled, always carry a risk of becoming top-heavy, thus necessitating a major adjustment in operations.

Programs and Meetings

Trelford Chairman of Marine Transportation Group

W. R. Trelford, of Humble Oil & Refining Co., Houston, Tex., has been appointed 1939 chairman of Group 5, national subcommittee on marine transportation of the central committee on standard procedure for measuring, sampling, and testing crude oil, of the American Petroleum Institute Division of Production. Announcement of the appointment was made by O. D. Donnell, of Ohio Oil Co., Findlay, Ohio, chairman of the central committee.

Membership follows: Eastern district, chairman, Robert F. Hand, Standard Oil Co. of New Jersey, New York; Harry Campbell, Sinclair Navigation Co., New York (with Admiral J. K. Robison, as alternate); C. W. Feldmeier, Pure Oil Steamship Co., New York; E. B. Fritz, Sun Oil Co., Marcus Hook, Pa.; C. E. Heyl, Standard Vacuum Transportation Co., New York; R. K. Kelly, Tide Water Associated Oil Co., New York; James E. Moss, Atlantic Refining Co., Philadelphia, Pa.; Chris Storey, Cities Service Transportation Co., New York, and George Wagner, Texas Co., New York.

California district, chairman, William Groundwater, Union Oil Co.; L. C. Dehart, Hancock Oil Co.; Daniel Dobler, Texas Co., Wilmington; J. J. Downey, Richfield Oil Corp., Los Angeles; J. W. Malseed, Shell Oil Co.; M. V. Moulton, Sunset Oil Co.; G. F. Olsen, General Petroleum Corp., and G. D. Zeh, Tide Water Associated Oil Co., San Francisco.

Loomis Heads Committee On Refinery Technology

N. E. Loomis, of Standard Oil Development Co., New York, has been appointed chairman of the American Petroleum Institute 1939 central committee on refinery technology. R. P. Anderson, secretary of the Division of Refining, is secretary. Announcement of the appointments was made by J. Howard Pew, Sun Oil Co., Philadelphia, Pa., vice president for refining. The membership of the committee follows:

Bruce K. Brown, Standard Oil Co. (Indiana), Chicago, Ill.; H. W. Camp, Cities Service Oil Co., Tulsa; F. S. Clulow, Shell Oil Co., San Francisco; David E. Day, Richfield Oil Corp., Los Angeles; T. G. Delbridge, Atlantic Refining Co., Philadelphia, Pa.; B. C. Frichot, Deep Rock Oil Corp., Cushing, Okla.; R. A. Halloran, Standard Oil Co. of California; E. W. Isom, Sinclair Refining Co., New York; K. G. Mackenzie, Texas Co., New York; E. B. McConnell, Standard Oil Co. (Ohio), Cleveland, Ohio.

Also J. T. McCoy, Tide Water Associated Oil Co., Bayonne, N. J.; F. W. McCurry, Derby Oil Co., Wichita, Kans.; L. G. Metcalf, Union Oil Co., Los Angeles; Walter Miller, Continental Oil Co., Ponca City, Okla.; R. C. Osterstrom, Pure Oil Co., Chicago, Ill.; A. E. Pew, Jr., Sun Oil Co., Philadelphia, Pa.; J. B. Rather, Socony-Vacuum Oil Co., Inc., New York; W. F. Sims, Panhandle Refining Co., Wichita Falls, Tex.; Herschel G. Smith, Gulf Oil Corp., Philadelphia, Pa.; H. D. Wilde, Humble Oil & Refining Co., Houston, Tex., and M. P. Youker, Phillips Petroleum Co., Bartlesville, Okla.

First Welding Conference Set At University of Oklahoma

The first annual welding conference and short course to be held at the University of Oklahoma, Norman, is scheduled for March 9-10.

The program will consist of four technical sessions: Welding and cutting technique and processes; weld inspection and testing; welding costs and economics; and welding and cutting applications. There will also be demonstrations of welding and cutting, arc and gas, on ferrous and nonferrous metals and alloys.

Western Kansas Chapter A.P.I. Meets at Hays

Oil problems of western Kansas were discussed at Hays, Kans., January 6 at a meeting of the western Kansas chapter of the Division of Petroleum of the American Petroleum Institute. Topics included manufacture, transportation and storage of oil field acids and recovering lost circulation in western Kansas wells.

O.S.P.E. Prepares Plans For Annual Meeting

The ninth district of the Oklahoma Society of Professional Engineers will meet at 7:30 o'clock January 13 in the offices of the Engineers Club of Tulsa to discuss plans for the coming annual convention to be held in Oklahoma City. G. C. McConnell, chief mechanical engineer, Shell Petroleum Corp., and president of the O.S.P.E., will be present at the discussion.

Northeast Oklahoma A.P.I. Holds Session in Tulsa

A large number of oil men attended the Northeast Oklahoma chapter meeting of the American Petroleum Institute January 4 at the Mayo Hotel. It was the first session for 1939 and in addition to the Tulsa members, brought many from Bartlesville, Fairfax, Nowata, Sapulpa and nearby towns.

W. Fred Heisler of Oklahoma A. & M. College, Stillwater, addressed the audience on "Vocational Training for the Petroleum Industry."

In the absence of Reid W. Bond, chairman, who was called to Kansas, the meeting was presided over by Russell S. Knappen, Gulf Oil Corp., first vice chairman. The other new officers are A. W. Walker, vice chairman; Ivan Salnikov, vice chairman; F. W. Floyd, chairman advisory committee; Mark L. Terry, vice chairman advisory committee; Paul S. Hedrick, secretary-treasurer, and A. M. Rowley, chairman publicity committee.

Questions and Answers at Ark-La-Tex Meeting

It will be questions and answers, and lots of them, when members of the technical group of the Ark-La-Tex division of Western Petroleum Refiners Association assemble in Shreveport, La., Friday, January 13, for their monthly meeting at the Washington-Youree Hotel. Several months have passed since the last questions and answers session of this group. The divisional office of the association in Shreveport reports the questions and answers sessions always draw a large crowd and result in much benefit.

The divisional secretary reports that approximately 50 questions have already been received from the members for discussion at the meeting in Shreveport and as many as possible will be presented. The questions deal with operating and manufacturing problems; maintenance and care of equipment; and the various processes of refining, the quality of gasoline and the trend towards higher and higher octane ratings, fuel oil, lubricating oils and greases.

A. W. Trusty, chief chemist of Arkansas Fuel Oil Co., will serve as chairman. Refiners throughout the Ark-La-Tex area, whether members of W.P.R.A. or not, are invited to attend the meeting and are assured full opportunity to present their questions and join in the discussion.

CALENDAR

January

SOCIETY OF AUTOMOTIVE ENGINEERS, annual meeting, Detroit, Mich., Jan. 9-13.

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Engineering Societies Building, New York, Feb. 13-16.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS AND LOUISIANA ENGINEERING SOCIETY, joint meeting, St. Charles Hotel, New Orleans, La., Feb. 23-25.

NORTH TEXAS OIL AND GAS ASSOCIATION, annual meeting, Wichita Falls, Feb. 25.

NATIONAL ASPHALT CONFERENCE, Los Angeles, Calif., week of February 27.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, committee week and regional meeting, Deshler-Wallick Hotel, Columbus, Ohio, Mar. 6-10.

INTERNATIONAL ACETYLENE ASSOCIATION, 39th annual convention, Houston, Tex., March 8-10.

WELDING CONFERENCE AND SHORT COURSE, University of Oklahoma, Norman, Okla., March 9-10.

WESTERN PETROLEUM REFINERS ASSOCIATION, annual meeting, San Antonio, Tex., Plaza Hotel, March 20-22.

INDIANA INDEPENDENT PETROLEUM ASSOCIATION, spring convention, Hotel Severin, Indianapolis, March 14-16.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, 24th annual meeting, Skirvin Hotel. Oklahoma City, March 22-24.

April

AMERICAL CHEMICAL SOCIETY, Baltimore, Md., April 3-7.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 12-13.

OIL-WORLD EXPOSITION, Houston, Tex., April 24-29.

May

PETROLEUM ELECTRICAL SUPPLY ASSOCIATION AND PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Rice Hotel, Houston, Tex., May 2-4.

NATURAL GASOLINE ASSOCIATION OF AMERICA, Hotel Tulsa, Tulsa, Okla., May 3-4-5.

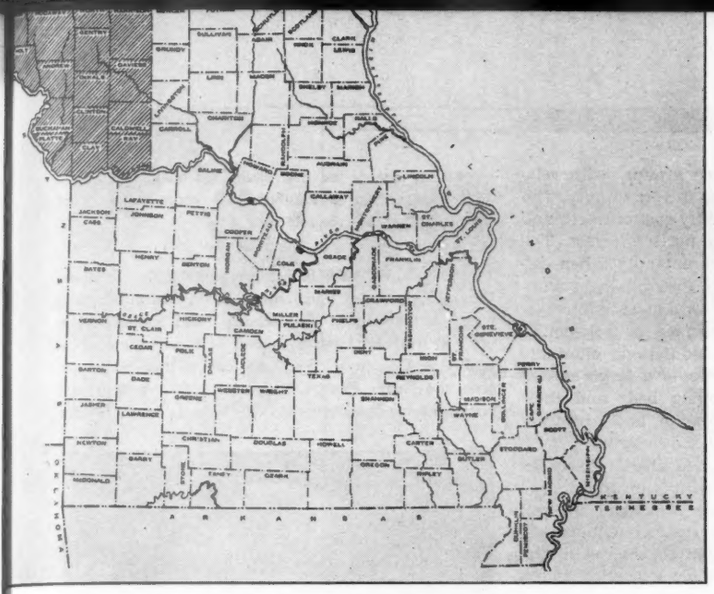
AMERICAN PETROLEUM INSTITUTE, 9th midyear meeting, Roosevelt Hotel, New Orleans, La., May 15-18.

WORLD AUTOMOTIVE ENGINEERING CONGRESS, sponsored by S.A.E. for New York (May 22-26), Indianapolis (May 30), Detroit (May 31-June 2), San Francisco (June 6-8), May 22-June 8.

June

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, Hotel Hershey, Hershey, Pa., June 15-16.

THIRTEENTH INTERNATIONAL CONGRESS OF CARBIDE, ACETYLENE, OXYACETYLENE WELDING AND ALLIED INDUSTRIES, Munich, Germany, June 25-July 1.



The darkly shaded area includes the northwestern Missouri counties in that part of the Forest City basin discussed in the text

MISSOURI STUDIES OIL POSSIBILITIES

Leasing in the Forest City basin continues unabated, neighboring sectors of Kansas, Iowa and Nebraska sharing with northwestern Missouri in the widespread activity. A recent estimate placed the amount of land already under lease in excess of 3,000,000 acres, with the bulk in Missouri. However, several large blocks have been assembled in northeastern Kansas, and numerous leases have been taken in southern Iowa and, to a lesser extent, in southeastern Nebraska. Land men, geologists and geophysical crews are busy throughout the four-state area, representing both independent operators and major companies.

This is an unusual play, even in an industry that is accustomed to unusual things, because of the lack of any important oil production anywhere within the basin. Nor has any actual drilling for oil been started in Missouri since the lease play got under way, although some core drilling has been reported in Worth County and H. V. Elwell, one of the first oil men to begin leasing in the area, has a rig up for a test in Sullivan County. Two or three tests are at various stages of drilling along the south edge of the Kansas sector. It is predicted that a more or less intensive wildcatting campaign may get under way in 1939.

In view of the very active interest that has been displayed in the surface and subsurface geology of that portion of northern Missouri lying in the Forest City basin area, two bulletins issued by the Missouri Geological Survey on northwestern and northeastern Missouri are timely. These bulletins are just off the press and will serve as an answer to many of the questions asked about the area and give much valued information in making a proper analysis with regard to the oil and gas possibilities of the Missouri portion of this area.

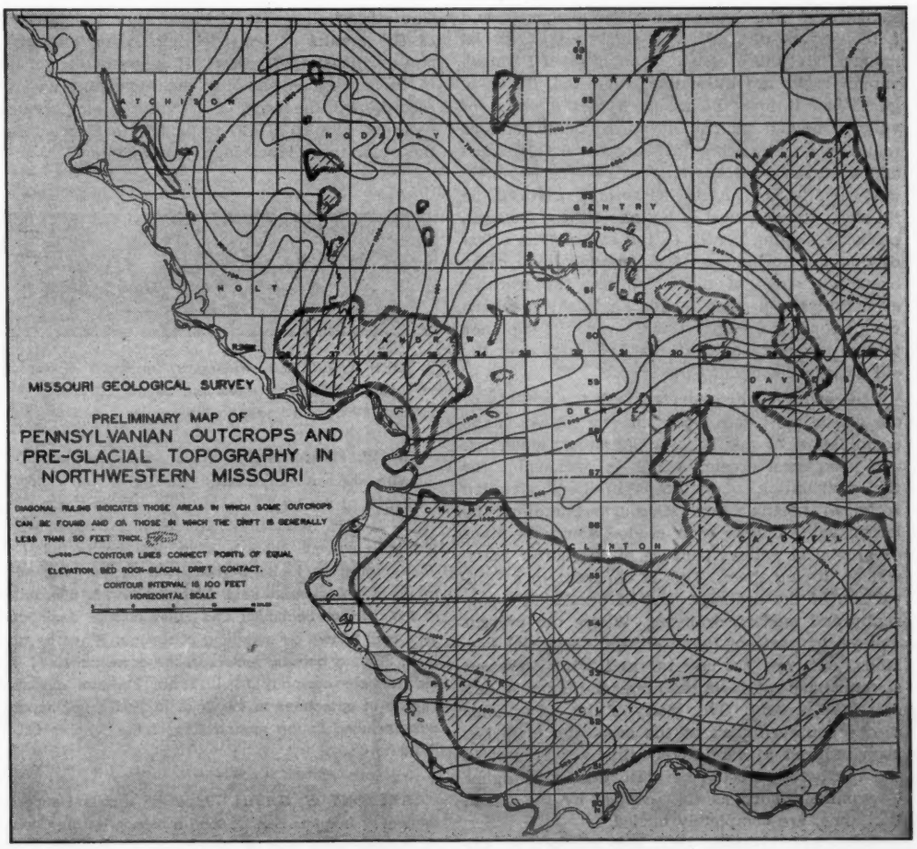
These bulletins are entitled "The Geology of Northwestern Missouri" by H. S. McQueen and F. C. Greene, Volume 25, second series, and "Subsurface Geology of Northeastern Missouri" by J. G. Grohskopf, N. S. Hinchey and F. C. Greene, Appendix I, Sixtieth Biennial Report, published by the Missouri Geological Survey and Water Resources, H. A. Buehler, director and state geologist, Rolla.

The Forest City basin is an area which has attained a well established recognition in the terminology of the Mid-Continent structural provinces. There may be some question as to the exact technical status of this term but as it is recognized it is used in the report. The area has the aspects of both a structural and depositional basin, and these factors make difficult a close definition of the limits of this regional feature. Broadly considered, it occurs in the area in northwestern Missouri, southwestern Iowa, southeastern Nebraska, and northeastern Kansas into which the Pennsylvanian and the Permian beds dip. On the southeast is the Ozark region and to the east is the Lincoln fold, a broad uplift extending to the north along the Mississippi River. On the west is the buried uplift generally termed the Nemaha mountains. The basin is terminated on the north by the Wilson-Thurman structural feature in southwestern Iowa. The southern boundary is poorly defined and can be drawn only on the basis of a zone in which drilling has revealed the Cherokee formation to be thinner than in the Forest City basin to the north and the Oklahoma basin to the south.

The Pennsylvanian beds are probably largely responsible for the general use of the name "Forest City basin" among geologists and if a definition is to be closely drawn, it will be drawn on the basis of the thickness of the pre-Ardmore limestone portion of the Cherokee. The presence in this area of increased thickness of lower Cherokee, together with the prevailing nonmarine character of the sediments, suggests that at least in early Cherokee time, the Forest City area was a depositional basin.

The pre-Pennsylvanian sediments indicate that the area received deposits somewhat thicker than those of the same age in adjacent areas and finally in summary, it appears that at different times, the Forest City basin has been both a structural and depositional basin.

The report on the northwestern part of the basin in Missouri has been expanded to include all that part of the state west of the eastern boundaries of Ray, Caldwell, Daviess and Harrison counties. The area extends north to the Missouri-Iowa state line and south and west to the Missouri River. In the classification of the U. S. General Land Office Range 26w to Range 42w,


MISSOURI GEOLOGICAL SURVEY
PRELIMINARY MAP OF
PENNSYLVANIAN OUTCROPS AND
PRE-GLACIAL TOPOGRAPHY IN
NORTHWESTERN MISSOURI
DIAGONAL RULING INDICATES THOSE AREAS IN WHICH SOME OUTCROPS CAN BE FOUND AND ON THOSE IN WHICH THE DRIFT IS GENERALLY LESS THAN 50 FEET THICK.
CONTOUR LINES CONNECT POINTS OF EQUAL ELEVATION, BED ROCK-GLACIAL DRIFT CONTACT.
CONTOUR INTERVAL IS 100 FEET
HORIZONTAL SCALE
ATCHISON
HOLT
GENTRY
CLINTON
DAVIESS

The Missouri portion of the Forest City basin

and Township 50n (in part) to Township 67n defines the area discussed in the Geology of Northwestern Missouri. The other bulletin covers the counties to the east of this area.

In general, the region is undulating to rolling, with a few narrow strips of hilly land along the larger streams, particularly the Missouri. The greater part of the land is under cultivation. The entire area drains into the Missouri River. The river bottoms in southeastern Platte County are a little more than 740 feet above sea level. The highest known point is the triangulation station designated as "Rome" and located in the NW NW Section 33-67-33w, in the northeast corner of Nodaway County, with an elevation of 1,224 feet. While the general altitude of the region rises to the north, no generalizations of value can be made. In many places the tops of the loess-capped hills along the Missouri River are higher than any point for several miles to the east.

The average rainfall ranges between 30 and 40 inches, but in the eight years ending with 1938, there has been a deficiency. As a result ground water level has dropped and running water is confined to the larger streams. This deficiency in rainfall has resulted in the construction of many lakes and ponds, and therefore lack of water for drilling should not be a serious handicap in some localities.

The region is served by a network of federal, state, farm-to-market and other improved roads, and nearly all sections of the region are accessible except after prolonged periods of rain or snow. Railroad facilities are available throughout.

Summary of Surface Geology

The upland surface of the region is covered with a greater or less thickness of glacial clay and along the Missouri River loess caps most of the hills, whether of glacial material or Pennsylvania beds. The bedrock surface of the region consists of Pennsylvanian beds, limestones, shales, sandstones, minor amounts of conglomerate and a few layers of coal. The thickness of glacial material and the presence of outcrops of Pennsylvanian rocks are intimately connected. Prior to glaciation, it must be assumed that a series of valleys, upland plains and escarpments, similar to those now existing in southwestern Missouri and southeastern Kansas, were present in northwestern Missouri. At the close of glaciation, the till sheet covered most, if not all of these features, probably sloping gently to the south. The effect of this was to bury all the Pennsylvanian rocks beneath a sheet of till which was rather thick even over the preglacial uplands in the northern counties, decreasingly thick over the uplands toward the south and of great thickness over the old valleys throughout the area.

The erosion which started with the melting of the glacial ice began removing the till. It is the combination of preglacial topography, glaciation and postglacial erosion which is responsible for the distribution of outcrops of Pennsylvanian rocks in northwestern Missouri. Some of the larger valleys have been eroded along the lines of preglacial valleys because of the softer material occupying them. This is apparent in a comparison of the drainage map of preglacial topography and modern drainage. Where the present valleys, or parts of them, occupy preglacial lowlands, outcrops are absent, and where present streams have cut down the preglacial uplands, outcrops are present. Over many of the old uplands in the southern part of the area, the drift has been reduced to a relatively thin veneer, but in the northern part of the state even the higher escarpments, such as that capped by the Oread limestone, are completely buried.

The Pennsylvanian beds are included in the Pleasanton, Kansas City, Lansing, Pedee, Douglas, Shawnee and Wabaunsee groups, with relative small areas of lower beds in Ray County. The strike of the outcrops is slightly east of north and the dip of the beds slightly north of west. The dip is so low that it is apparent only when distant points are compared. In every area in western Missouri where close structural control is available, either through surface or subsurface control, the local dips or undulations eliminate the effect of the regional dip to a large extent. The nature of the outcropping beds and their availability for surface mapping and structure test drilling are discussed in the bulletin.

The stratigraphy of the area also is discussed at some length, starting with the Pleistocene series which consists mainly of glacial till and loess. The Pennsylvanian system contributes all outcropping rocks in the area considered in the report. One very small possible exception is the outcrop of the Indian Cave sandstone a few miles west of Rockport in Atchison County which is considered Permian by the Kansas Geological Survey. The Pennsylvanian series contain the Des Moines group made up of the Cherokee which is divided into pre-Ardmore and upper beds of Cherokee, Henrietta group, and the Missouri series. Under this latter grouping are the Pleasanton, Kansas City, Lansing, Pedee, Douglas and Shawnee and Wabaunsee formations.

Pre-Pennsylvanian rocks include three major divisions of Mississippian age grouped as Meramec, Osage and Kinderhook with mention of the Chester which has not been specifically identified in samples from wells drilled within the area. The other older systems, Devonian, Silurian and Ordovician, are also described.

Within the area gas has been produced commercially in Platte, Clay, Bay and Clinton counties. A record of the 158 wells completed in Cherokee or older formations is tabulated but it does not include producing wells in developed area.

Of the two bulletins that on northwestern Missouri is the one of most interest to the oil man. The other bulletin consists principally of records of the results of well drilling in north central and northeastern Missouri. It contains three maps of the area, one showing the important well of record, and the other two being geologic cross sections, one from Breckenridge to Canton and the other from Worthington to Bowling Green.

Obituaries

JOHN Y. SNYDER, well-known geologist of Shreveport, La., and former president of the A.A.P.G., died January 10 after a lingering illness.

W. W. FONDREN, 61, a pioneer in the Texas oil industry, died at San Antonio January 5. His career in oil began at the age of 18, in 1895. Born in Union City, Tenn., in 1877, he moved to Arkansas and began working in a sawmill there a short time before going to Texas where at 17 he worked as a derrick roughneck in the old Corsicana field. Later he began operations of his own at Beaumont and other coastal fields and was well known as a drilling contractor. When he and R. S. Sterling became factors in the organization of the old Humble company in 1911 Mr. Fondren assumed charge of operations in the field. In 1917 this company was included in the organization of the Humble Oil & Refining Co.

ANTHONY W. GAVIN, 79, retired assistant superintendent of Iroquois Gas Co. and a pioneer in the Olean, N. Y., oil fields, died in Buffalo, N. Y., January 5. A native of Machias, Cattaraugus County, New York, he helped lay one of the first pipe lines out of the Olean fields. He retired in 1924 after 35 years as assistant superintendent of Iroquois Gas Co.

SAMUEL W. MEALS, 69, president of the Carnegie Natural Gas Co. of Pittsburgh, Pa., and an outstanding figure in the natural gas industry, died suddenly January 4. He had been president of the Carnegie Natural Gas Co. since 1921 and before that had been with the South Penn Oil Co. in West Virginia and southwestern Pennsylvania. He was born in Clarion

SAMUEL W. MEALS

County, Pennsylvania, and began his career in the oil and gas industries as a roustabout in middle Pennsylvania oil fields in 1887. In 1892, he joined the South Penn Oil Co. in West Virginia and later became superintendent in the field near Waynesburg, Pa. His long association with Carnegie Natural Gas Co. began in 1905 as superintendent of the properties in West Virginia. In 1917, he was transferred to Pittsburgh and became general superintendent. In 1919, he was elected vice president and general manager and on November 1, 1921, was elected president. He was a past president of the natural gas section of the American Gas Association and a past president of the Pennsylvania Natural Gas Men's Association, a member of the American Institute of Mining and Metallurgical Engineers, the Iron and Steel Institute, the American Petroleum Institute and West Virginia Oil and Natural Gas Men's Association.

CHARLES A. WARD, 69, Columbus, Ohio, editor of the Pure Oil News for 20 years, died January 4. In 1916 he was president of the Dayton Gas Co. which later became part of Ohio Cities Gas Co.

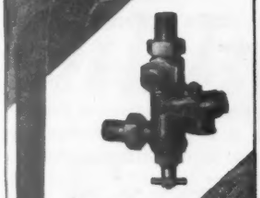
CLIFFORD T. RICKERSON, secretary and a director of Sloan & Zook Co., Bradford, Pa., died suddenly recently.

RUSSELL B. TEWKSBURY, 79, chairman of the board of Oster Manufacturing Co., Cleveland, Ohio, died last week at his winter home in Sarasota, Fla. He was one of the founders of the company in 1893.

EDWARD A. JOHNSON, 58, vice president of Pittsburgh Equitable Meter Co., died recently in Bellevue, Pa. He joined the company in 1929.

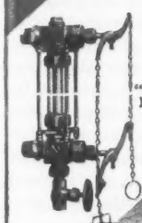
A PENBERTHY GAGE
FOR EVERY PURPOSE

All Penberthy Gages conform with A.S.M.E., Federal and State requirements when used for pressures specified by their respective codes.

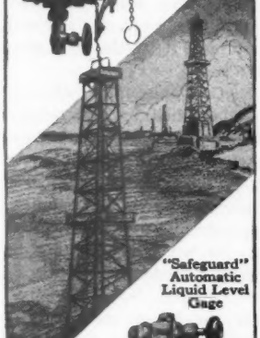


Automatic Injector

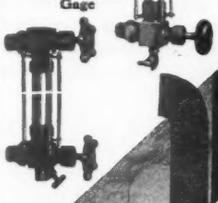
Ejector, Syphon or Jet Pump



"Navy Type" Liquid Level Gage



"Safeguard" Automatic Liquid Level Gage



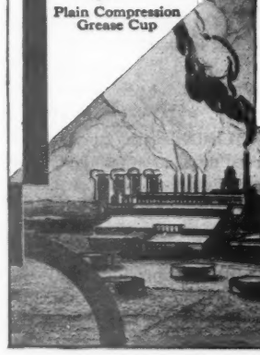
"All-Iron" Automatic Liquid Level Gage

Gas Engine Lubricator

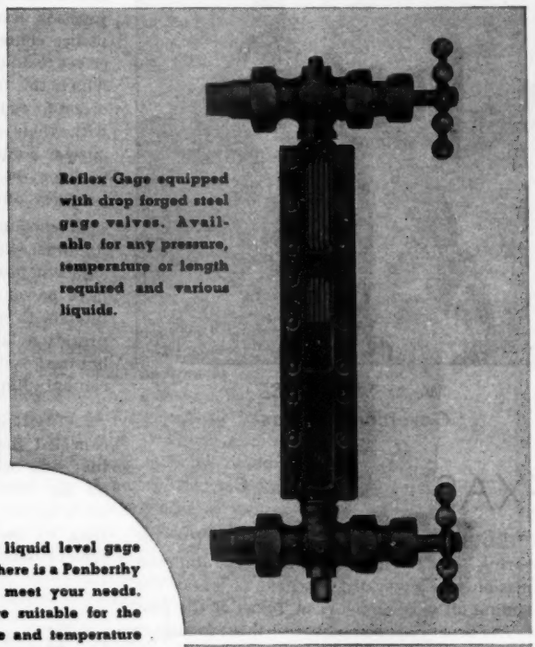
Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup



Reflex Water Gage Set designed for oil field boilers.
Type A—Navy Bronze.
Type B—All Iron.



Reflex Gage equipped with drop forged steel gage valves. Available for any pressure, temperature or length required and various liquids.

Whatever your liquid level gage requirements, there is a Penberthy Gage that will meet your needs. These gages are suitable for the various pressure and temperature requirements of the oil industry. Write for a copy of new catalog.

Supply houses everywhere stock Penberthy liquid level gages.

PENBERTHY PRODUCTS

Navy Type Gage Extra Heavy Bronze

All Iron Gage Extra Heavy

PENBERTHY INJECTOR COMPANY

Manufacturers of QUALITY PRODUCTS Since 1886
DETROIT, MICH. • Canadian Plant, Windsor, Ont.

Screw Plunger Grease Cup

Spring Compression Grease Cup

Automatic Electric Sump Pump

Automatic Cellar Drainer (Water or Steam Operated)

Dipless Air Cock

Acme

W. LEE O'DANIEL
Governor of Texas

TEXAS

SCHEDULING OF THE NEXT STATEWIDE oil hearing for March 15 by the Texas Railroad Commission was generally regarded as one of the outstanding oil developments in Texas of the past week. The order was signed by all three members of the commission, indicating unanimity on the soundness of the policy of preventing an accumulation of oil during the season of lessened consumption. The announcement, made by newly elected Commissioner Sadler, was particularly significant in that he had previously insisted there would be an oil hearing in January despite the fact that the current Saturday-Sunday shutdown order continues through March.

By setting the next hearing at a date some two months away, the commission is giving the industry fair notice of just what conditions to expect during this period. Especially so, since the commission announced that it was its unanimous decision that special allowables would not be granted to operators in any field between now and the March hearing. Thus excepting increased allowables due to new well conditions, there will be no changes in field allowables. Sadler, however, pointed out the docket on the oil order was still open and should future events require any changes a hearing could be had at any time.

By setting the next hearing for March, many observers felt that the practice of inviting outstanding figures to attend the hearings would be continued. At the December hearing, high officials of oil companies presented figures on their crude and gasoline stocks, stated what their policies would be during the winter months and made recommendations as to how they believed current problems should be handled. By again inviting these prominent company officials to sit in, the commission would be given an opportunity to check on the company's operations to see if they were in keeping with the policies stated at the December hearing. Then, upon receiving evidence and recommendations for basing the April, and possibly May, allowables, the commission would have much more data at its disposal regarding probable market demand. In any event, it seems the commission has established a precedent which, if continued, should serve to remove much uncertainty from the minds of the company heads that existed when orders were issued monthly.

A THREE-JUDGE FEDERAL COURT last Friday invalidated a Railroad Commission order involving proration of the West Panhandle gas field, but held the commission was not in contempt in issuing the order. The commission issued an order to regulate undue drainage of the gas field last December 19 which Texoma Natural Gas Co. and Cities Service Gas Co. contended violated an injunction issued by the court in 1937. The companies contended the recent order was similar in effect to an order issued in December, 1935, against which the injunction was obtained, and that the order forced them to divide their markets for gas with their competitors. The commission in its answer contended the recent order was issued to prevent the companies from draining gas from property other than their own.

The court held the commission has no authority under state law to regulate undue drainage from adjacent property in a gas field, although it does have power to limit production. The commission intends to ask the legislature to amend the gas-proration laws to permit regulation of drainage, but until such amendment is made, the commission can only limit production.

ATTORNEY GENERAL GERALD C. MANN canceled four scheduled sales of East Texas oil that had been confiscated by the state as "hot" oil. Mr. Mann said he meant to devise some method whereby such oil would bring higher prices than in the past. The canceled sales involved 126,714 bbls. of crude.

CALIFORNIA

TWO OVERPRODUCING FIELDS in the Los Angeles Basin, the hot spot of curtailment difficulties, have agreed to reduce production immediately. Operators in El Segundo will reduce their production to the umpire's allowable, making it retroactive to January 1; and operators in West Montebello, at their field committee meeting, passed a resolution to limit production from all wells to a maximum of 300 bbls. per day, commencing January 10.

"The El Segundo cut in production will lower production by 1,000 bbls. per day," according to E. E. Pyles, chairman of the Emergency Executive Committee of Independent Oil Operators. "In West Montebello all but one operator agreed to cut to the 300-bbl. maximum in that field. The other operators agreed to curtail as of January 10, and all said they would use their efforts to try and show the holdout operator the necessity for the cut. The 300-bbl. maximum will reduce production approximately 1,300 bbls. per day."

For the first time in years, production of oil in California was below the allowable set by the umpire's office during the last two days of December; and even though it is up to approximately 625,000 bbls. per day, that figure still represents a cut of about 40,000 bbls. per day under production during the first few days of December.

STATE CAPITALS

KANSAS

THE RESIGNATION OF HOMER HOCH from the Kansas Corporation Commission to assume his duties as associate justice of the Supreme Court of Kansas will necessitate the appointment by Governor Payne H. Ratner of Judge Hoch's successor. The term of Judge E. E. Blincoe of Fort Scott as a member of the Corporation Commission will expire in March. It is thought by some oil men that Governor Ratner will reappoint him. Judge E. R. Sloan had said he would resign as a member of the commission when Governor Walter A. Huxman's term was over. This would necessitate a third appointment by the new governor.

The successor to E. G. Dahlgren, chief conservation officer, must be filled by a carefully chosen man of experience, judgment and courage in the opinion of oil men. Such a man in their opinion should be paid a salary as high as $15,000 yearly. Governor Ratner will have the appointment of an oil advisory committee which will assist the commission in its work of maintaining a balance between supply and demand and conserving Kansas oil.

Proration orders for the Lyons gas pool in Rice County, effective as of January 1, have been issued by the Corporation Commission. The market will be allocated to wells in the pool three-fourths on the basis of acreage times pressure and one-fourth in proportion to open flow. Maximum acreage to be credited to a well will be 640 acres, with the requirement that the area be contiguous and on the same lease.

THE STATE LEGISLATURE at some time in its early stages will consider a bill that provides that all oil and gas wells in Kansas be equipped with a standard form of meter to register the production of oil and gas pumped or flowed.

If the bill is enacted into law, it would be illegal to move any oil from a lease unless it was equipped with a meter that would record the quantity of crude oil or gas run.

The Oil and Gas Conservation Division of the Kansas Corporation Commission would administer the law, which would require only one meter for each lease.

The meters would be placed in such a manner that they would be available for public inspection at all times.

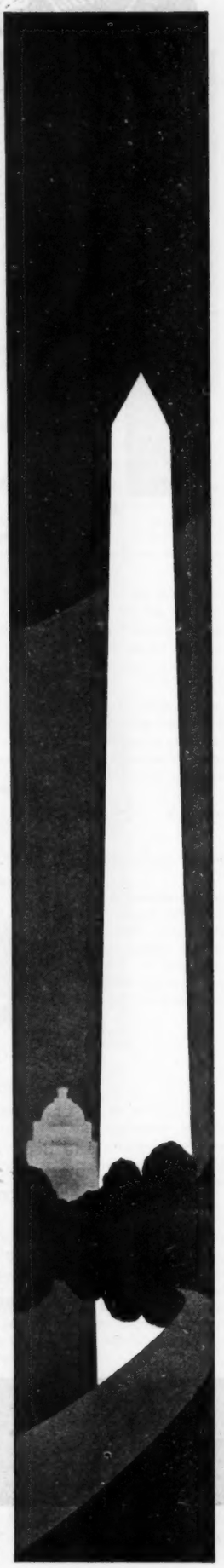
Penalty for violation of the law would be a fine not to exceed $1,000 and imprisonment in jail for not more than one year.

IOWA

THE FOREST CITY BASIN leasing play in Missouri and Iowa has stirred up at least one legislator in the latter state. Representative James A. Lucas of Taylor County says he will sponsor a bill modeled on the oil statutes on the books of Kansas, Oklahoma, and Texas providing for offset wells and well spacing. Iowa has not produced any oil, and there are no wells drilling in the state, but 70,000 acres have been leased in Taylor County alone, according to Mr. Lucas.

Oil Industry Must Keep Eye on New Congress

By HENRY D. RALPH



WASHINGTON, D. C., Jan. 9.—The interest of the oil industry in the legislative program of the new Congress which convened last week apparently will be about the same as that of the preceding Congress, as already the schedule incluides such familiar proposals as extension of the gasoline tax, control of stream pollution, a tax on fuel oil, a chain store tax, prohibition of oil production from submerged lands, and antitrust enforcement.

Indefinite extension of the federal excise taxes on gasoline, lubricating oils, and other commodities was recommended by President Roosevelt in his annual budget message. These taxes, which have been extended every year or two since 1932, are due to expire at the end of this fiscal year, June 30, 1939, but the budget submitted for the 1940 fiscal year is based on their continuance and the president suggested no date at which he thought these taxes might be permitted to expire. In his budget message, the president said:

"I am recommending the reenactment of the excise taxes which will expire in June and July of this year, not because I regard them as ideal components of our tax structure, but because their collection has been perfected, our economy is adjusted to them, and we cannot afford at this time to sacrifice the revenue they represent. If the Congress should at this session adopt new taxes more scientifically planned to care for the defense and agricultural programs, it is quite possible that the existence of these new taxes will enable us in a later year to give consideration to abolishing some of the present excise levies."

These various manufacturers' excise taxes yield a total revenue in excess of $400,000,000, about half of which is produced by the gasoline tax, which is estimated at $210,500,000 if continued during the fiscal year 1940. The gasoline tax yielded $203,648,079 during the 1938 fiscal year and is estimated to produce $192,000,000 during the current fiscal year. The federal tax on lubricating oils produced $31,565,020 in 1938 and is estimated to yield $29,800,000 during the current year and $33,400,000 during the 1940 fiscal year.

Because of the size of the federal deficit it is quite likely the house committee on ways and means will follow its course of last year in declaring that while these manufacturers' excise taxes are undesirable as a part of our permanent tax system, the current need for revenue is so great they should be continued for another couple of years. This matter will not be raised for some months, however, as it is probable the committee will not begin consideration of new tax legislation until about the first of April, when it will have available the results of the March income tax payments and a better estimate of the government's revenue during the coming year.

Fuel Oil Tax

The Boland-Flannery fuel oil tax bill which caused so much excitement last year when it appeared that the White House was interested in the proposal has not yet been placed before the house, but probably will be sooner or later, since the measure has been introduced in the senate by Senator Matthew M. Neely of West Virginia. The Neely bill would impose a federal tax of three cents a gallon on the sale of fuel oil for the generation of heat or power but not for use as fuel for an internal combustion engine. While a revenue measure may not originate in the senate, the Neely bill could be included as an amendment to any revenue measure coming over from the house, and its introduction shows the coal interests which supported this proposal last year have not abandoned their objective. The chief legislative sponsor of the fuel oil tax, Representative Patrick J. Boland of Pennsylvania, has been given a post on the ways and means committee, which should put him in a strategic position to have this tax included in a general tax bill which the committee will frame later in the session, although last year Mr. Boland made strenuous but unsuccessful attempts to have this committee approve a fuel oil tax.

Chain Store Tax

The Patman chain store tax bill was reintroduced on the opening day in the same form as last year and with the continued support of various groups of independent retailers. The bill would put an increasingly heavy tax on chain store outlets, graduated in accordance with the number of outlets and the number of states in which a chain operates, and is frankly designed to put large chains out of business, but, as last year, the bill would not apply to any filling station engaged primarily in the sale or distribution of petroleum products and not engaged in the sale or distribution of automobile tires or tubes. Chances of the bill's enactment are no better than last year, partly because of the educational campaign conducted by various chain store interests. An indication of the attitude of house democratic leadership is the fact that the leaders refused to grant the request of the bill's author, Representative Wright Patman of Texas, for a post on the ways and means committee.

Submerged Oil Lands

Senator Gerald P. Nye of North Dakota has reintroduced his resolution to prevent production of oil from submerged coastal lands. During the last Congress a similar resolution passed the senate and was the subject of lively hearings before the house committee on the judiciary, but failed of enactment. The new resolution asserts federal title to all such lands and the underlying petroleum deposits but would direct the attorney general to establish such title by bringing suits for the ejection of all persons removing petroleum from submerged lands along all the coasts of the United States between the low water mark and the three-mile limit.

Stream Pollution

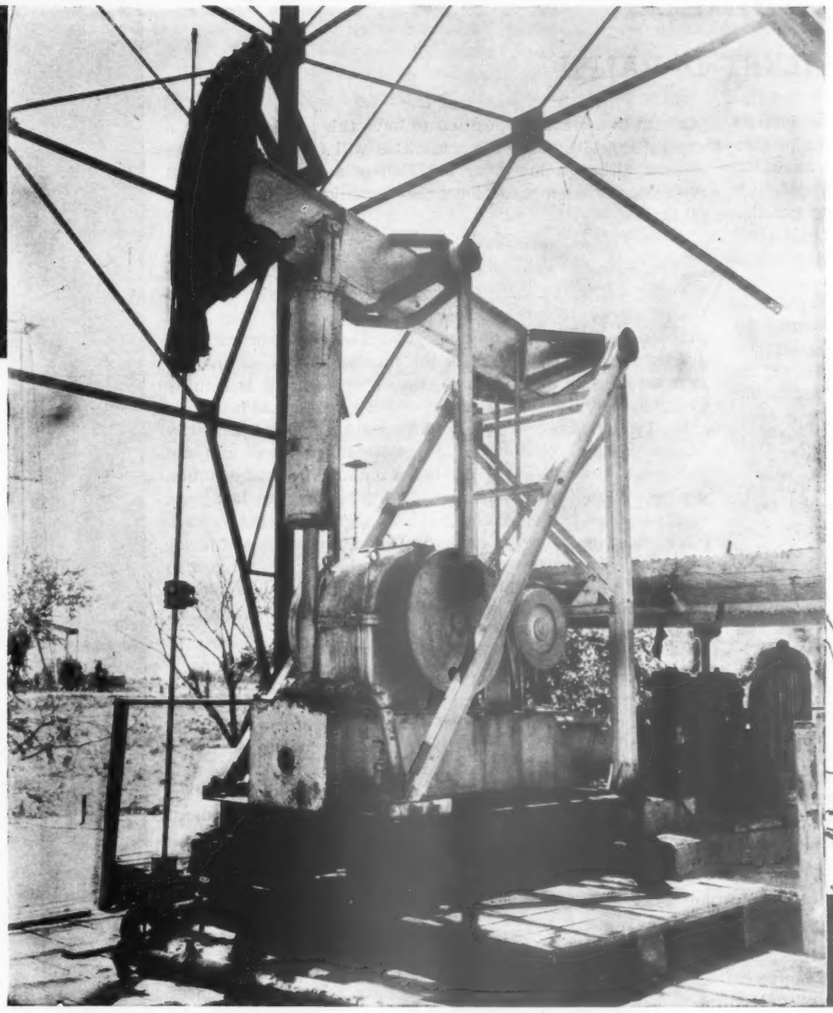
The stream pollution bill which was vetoed by President Roosevelt at the close of the last session has been introduced in much the same form by Representatives Claude V. Parsons of Illinois and Brent Spence of Kentucky. In announcing his disapproval after the adjournment of Congress, the president objected to the fact that the bill provided that recommendations for appropriations for reducing pollution of streams were to be submitted directly to Congress by the Public Health Service without first clearing through the president and the Bureau of the Budget, but the Parsons and Spence bills take no account of the president's objections. They follow the line of the Vinson-Barkley bill of last year which was generally endorsed by the petroleum and other industries and omit the drastic restrictions and penalties of the Lonergan bill which caused so much delay in the passage of the stream pollution measure.

While it may be that Congress will accept the president's views that appropriation requests should clear through the budget, the general expectation is that stream pollution legislation will be passed this year without the Lonergan proposals, since Senator Augustine Lonergan of Connecticut is no longer in the senate. The Parsons and Spence bills would set up a board in the Public Health Service to cooperate with states and private industry in preparing plans for controlling stream pollution and would authorize federal loans and grants-in-aid for the construction of pollution abatemement works.

Miscellaneous Bills

The usual crop of miscellaneous bills made its appearance during the opening days of the session. Alky-gas was in this

RING OUT THE OLD! RING IN THE NEW!

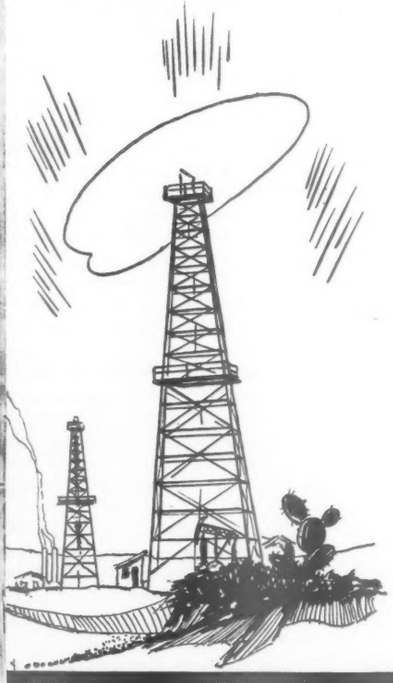


with a

REED

Air Balanced

PUMPING UNIT



THE coming of each new year means greater progress, and **progress means change.**

The Reed Air-Balanced Pumping Unit incorporates new ideas, new features—features that will effect a saving on your pumping problems.

The Reed Air-Balanced Pumping Unit utilizes the cushioning effect of compressed air to provide a smooth acting counterbalance. This cushioning effect relieves all parts of the unit from the great strain, and excessive wear characteristic of conventional pumping units.

A good New Year's Resolution for more efficient and more economical lifting is to standardize on the Reed Air-Balanced Pumping Unit.

BECAUSE: . . . **It requires less foundation**

. . . **One man can service the well**

. . . **It pumps more fluid**

Write for pumping unit bulletin No. 378

REED ROLLER BIT COMPANY

P. O. DRAWER 2119, HOUSTON, TEXAS

category in the form of the old Knutson bill, most drastic of all fuel alcohol proposals. Apparently unaware of the recent report of the Department of Agriculture to the effect that enactment of such a proposal would leave the nation virtually without food, Representative Harold Knutson reintroduced his bill to make it a criminal offense to sell any motor fuel in the United States unless at least 10 per cent of it is alcohol manufactured from agricultural products.

Representative Carl E. Mapes of Michigan introduced a bill to increase the gasoline tax in the District of Columbia to four cents per gallon in place of the existing two-cent tax. Senator William H. King of Utah is sponsor of a bill to transfer a large part of the Department of Interior to "one of the public land states" through the establishment of a branch office which would be the main administrative office of the Bureau of Mines, Geological Survey, General Land Office, Bureau of Indian Affairs, Bureau of Reclamation, and National Park Service. Representative John A. Martin of Colorado introduced a resolution to direct the Federal Trade Commission to investigate sales policies of automobile tire manufacturers and their relationships with retail distributors.

Budget Estimates

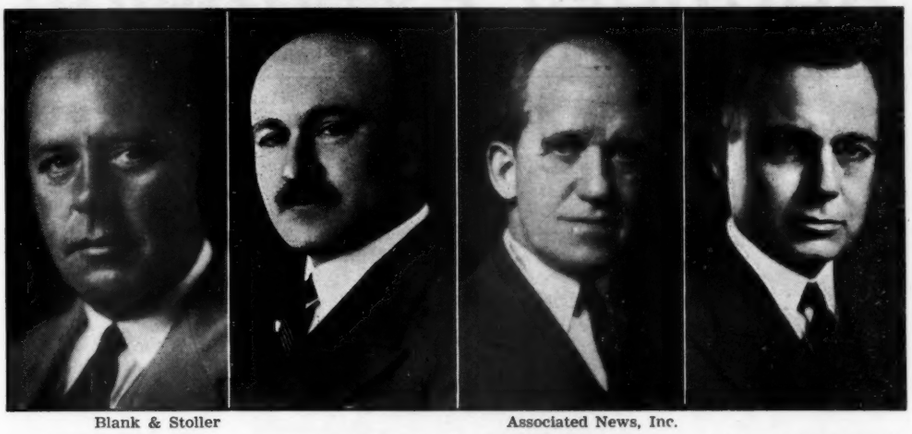
The budget estimate for the enforcement of the antitrust laws during the 1940 fiscal year is virtually double the appropriation for the current year, indicating President Roosevelt is in accord with the views of Assistant Attorney General Thurman Arnold that the antitrust laws would be much more vigorously enforced and a great many more suits brought. For several years antitrust appropriations have been slightly in excess of $400,000, but last year the regular appropriation bill carried $580,000 for this purpose and the amount was increased by $200,000 in a deficiency appropriation requested by President Roosevelt in his monopoly message last April, so that total funds for the antitrust division during the current fiscal year are $780,000. The budget for the next fiscal year carries an estimate of $1,530,000 for enforcement of the antitrust laws, nearly double that of the current year and more than three times the funds available in other recent years. A very decided increase in antitrust litigation is in prospect if Congress adopts this budget estimate.

The Federal Trade Commission also gets a sizeable increase in appropriations under the 1940 budget, largely for enforcement of the Wheeler-Lea act prohibiting false advertising and unfair or deceptive practices. The budget estimate is for $2,324,000 compared with appropriations for the current year of $2,195,700.

No provision for enforcement of the Connally "hot oil" act beyond the end of this fiscal year is contained in the budget since this act is due to expire on June 30, 1939. During the current year the Petroleum Conservation Division of the Department of the Interior has an appropriation of $260,000 for operation of the Federal Tender Board and enforcement of the "hot oil" law, and the budget calls for only $35,000 to be used by the conservation division next year for cooperating with states on oil conservation matters. This omission, however, does not indicate that the administration does not expect the Connally act to be continued, since it is not the practice of the Budget Bureau to include estimates of appropriations for enforcing laws which Congress is expected to pass.

Appropriations for the Bureau of Mines for the 1940 fiscal year are reduced by the budget to $2,405,760 compared with current appropriations of $2,902,735. Most of this reduction is accounted for by decreases in the items for helium production and the acquisition of helium properties.

NEW DIRECTORS OF SOCONY-VACUUM OIL CO., INC.



Blank & Stoller — Associated News, Inc.

WILBUR F. BURT
Chairman, Manufacturing Committee

LAWRENCE B. LEVI
Chairman, Foreign Trade Committee

ARTHUR T. ROBERTS
Treasurer

B. BREWSTER JENNINGS
Assistant to President

The board of directors of Socony-Vacuum Oil Co., Inc., has announced election of four new members to the board, coincident with the resignation of Frederic Ewing, formerly vice president in charge of eastern operations, who retired from active service because of health a year ago, but who continued as a director.

The new members elected to the board are Wilbur F. Burt, B. Brewster Jennings, Lawrence B. Levi and Arthur T. Roberts. Their length of service ranges from 19 to 41 years.

Arthur T. Roberts, of Bronxville, N. Y., treasurer, joined the accounting department of the old Standard Oil Co. (N. J.) in 1907. At the dissolution he was assigned to the comptroller's department of Standard Oil Co. of New York, and when that company merged with Vacuum Oil Co. in 1931 to form Socony-Vacuum, he became assistant treasurer, to be elected treasurer at the end of 1935.

Lawrence B. Levi, of New York, entered the service of Standard Oil Co. (N. J.) in 1898. After the dissolution he worked in the export department of Vacuum Oil Co., becoming chairman of the department and a director. He remained in the export department after the Socony-Vacuum merger and is now chairman of the foreign trade committee.

Wilbur F. Burt, of New York, started in the manufacturing department of the Standard Oil Co. of New York in 1912, of which he became a director. Four years after organization of Socony-Vacuum, he became chairman of the manufacturing committee, which post he now holds.

B. Brewster Jennings, of Glenhead, Long Island, entered the marine department of Standard Oil Co. of New York in 1920. He subsequently acted as purchasing agent and later was appointed manager of the real estate department of Socony-Vacuum. He is now assistant to the president.

Continental Co. to Cease Buying in Bryson Pool

FORT WORTH, Tex.—Continental Oil Co. has notified its connections in the Bryson pool of southwestern Jack County that, effective 7 a.m., January 15, it will withdraw as a purchaser. The company stated it had been buying the Bryson oil for its refinery at Wichita Falls, which now was overloaded due to its increased takings resulting from an attempt to relieve pipe line proration in the K.M.A. field.

Continental's action will leave approximately 70 wells, with 900 bbls. daily allowable, without an outlet unless taken over by the Texas Co., the only other purchaser with a line in that area. Two small refineries at Bryson, the Bryson Pipe Line & Refining Co. and Bryson Refining Co., Inc., at present are taking about 1,400 bbls. daily as an additional outlet.

Shipments of Oil and Distillate Burners Off 30 Per Cent

NEW YORK, Jan. 9.—Shipments of oil burners and distillate oil burners during 1938 declined approximately 30 per cent from the preceding year's record. This conclusion is based on results of the first 11 months. but appears to be representative of the trend for the year.

Shipments of oil burners in November declined to 11,518 units compared to the October total of 21,059 units. However, the November, 1938, shipments were nearly 1,000 units larger than those for the same month in 1937. For the first 11 months of 1938 the Bureau of the Census shows shipments of 130,387 oil burners compared to 184,941 units in the 1937 period, a decline of 29 per cent. Included in "oil burner" shipment statistics are units used for application to central heating plants for homes, apartments, office buildings, churches, theaters and similar buildings, to industrial process equipment such as heat treating furnaces, industrial ovens and for the generation of steam for power.

Distillate oil burner shipments for November totaled 36,251 units compared to 71,444 for October and with 36,928 units for the same month in 1937. Shipments for the first 11 months totaled 322,444 against 452,633 for the 1937 period, a decline of nearly 29 per cent. The types of burners included in these statistics are used in ranges, stoves, water heaters and space heaters.

Kettleman Hills Decision Ends Long Litigation

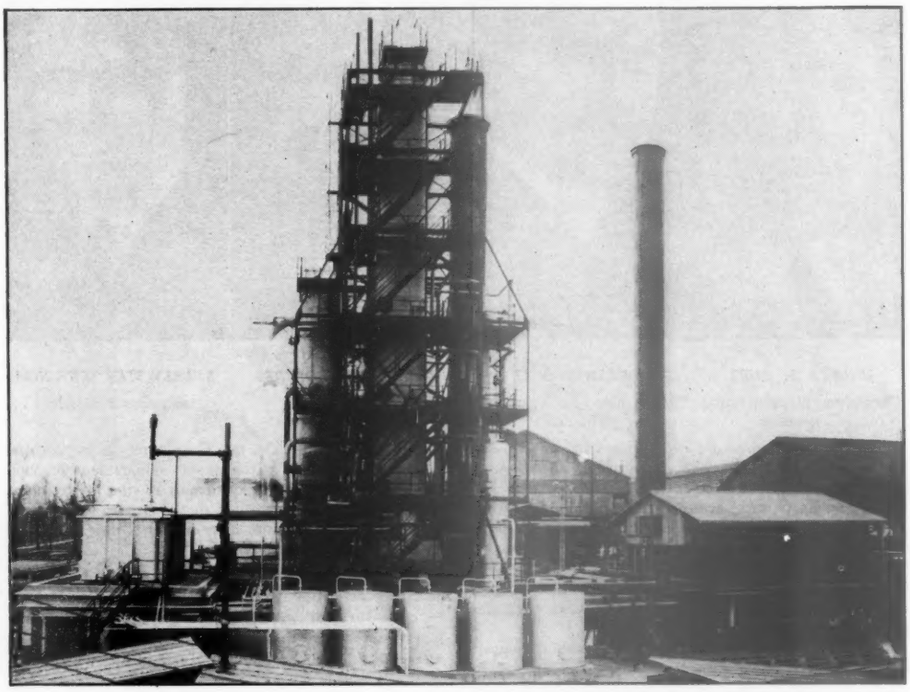
LOS ANGELES, Calif., Jan. 5.—One of California's longest civil cases, involving oil production in the Kettleman North Dome Association, ended today after 26 months of arguments, transcripts covering 25,000 pages, and the full, exclusive time of Superior Judge Minor Moore, who occupied a special courtroom.

He ruled in favor of the association, a group of companies and individual leaseholders formed to provide an equitable distribution of proceeds in the Kettleman Hills area, and against other companies which protested their exclusion from the association The association excluded them on the contention the lands never could be productive. The plaintiffs argued test wells should have been sunk to actually determine if the land was productive.

The association contended that the drilling of exploratory wells at $320,000 per well would have entailed the expenditure of untold millions and possibly eventual bankruptcy.

Judge Moore upheld the view that such expenditures under the circumstances and in light of the sciences of geology and of petroleum engineering would be unjustifiable, and that the directors of the association were within their rights in basing their action upon their opinion as to the location of the productive limits.

Refinery Expansion



Topping plant at Societe Generale des Huiles de Petrole refinery, Courchelettes, France

E. G. Hill Becomes President Of National Refining Co.

The third reorganization of the executive personnel of the National Refining Co. since its formation nearly 50 years ago took place at New York recently. W. H. Lamprecht II, president since 1935, when he succeeded his father, founder of the company, was elected chairman of the board, and Edgar G. Hill of Ford, Bacon & Davis, Inc., engineers, New York, was named president.

British American Canadian Gasoline Sales Increased in 1938

TORONTO, Ontario.—With Canadian gasoline sales increased in 1938 over the previous year, it is announced that the British-American Oil Co. has shared ratably in the gain. During the year the company retired debentures approximating $725,000.

Asphalt Blending Plant to Be Built

CORPUS CHRISTI, Tex.—The Col-Tex Refining Co. of Colorado, Tex., announced that construction will begin here immediately on a $1,500,000 asphalt blending plant. The plant will turn out road oil and asphalt for topping highways. The company is a branch of the Anderson-Prichard Oil Corp., of Oklahoma City.

Richfield Acid Treating Unit Will Have Special Features

In connection with the Richfield Oil Corp. expansion program which includes the erection of two new combination topping and cracking units at Watson, Calif., costing more than $5,000,000, a cold acid treating plant is to be built. Following the first announcement to the effect that the acid plant designed by Stratford Engineering Co., Kansas City, Mo., would have a capacity of 10,000 bbls., further information regarding this plant indicates that the cost will be more than $500,000. It will be built by Bechtel-McCone-Parsons, Los Angeles.

This plant is of the settler type having three stages to operate at 30, 30 and 20° F., respectively. Stock to be treated is debutanized cracked distillate. With varying amounts of acid and conditions of treatment, any desired reduction of sulfur within reasonable limits can be secured with the new equipment. All ammonia compressors, pumps and contactors will be electrically driven. Electrical starting equipment is to be housed in a well ventilated, reinforced, concrete room in the treating building to reduce hazards from electrical equipment to a practical minimum. Treating equipment and refrigeration equipment will be housed separately. All pumps and contactor motors will be explosion-proof while ammonia compression motors will be of the synchronous type having enclosed forced ventilated collector rings. Instrumentation planned will assure continuity of operation and uniformity of product. Particular attention has been given to possible hazards of earthquake and fire. Steel valves are being used throughout on oil piping. A steam smothering system will be installed in all buildings and foamite, from the refinery's present fire protection system, will be distributed to strategic points to guard against fire.

Taylor Refining Co. Is Completing New Unit

Construction of a new 15,000-bbl. unit at the Taylor Refining Co.'s plant west of Corpus Christi in Nueces County, Texas, is expected to be completed soon. This plant was formerly the Corpus Christi refinery. The new unit is expected to be in operation within two weeks or so. The new unit will make the plant the second largest in the district and it will have a daily capacity of 25,000 bbls. The company is also erecting an additional 350,000 bbls. of storage tanks.

Independent Refining Co. Adds to Laurel, Mont., Plant

LAUREL, Mont.—A caustic soda regeneration plant is under construction at the Independent refinery according to C. A. Cromwell, superintendent. The plant will reduce the sulfur content in gasoline and lower the cost of production.

Negotiations Are Under Way for British Columbia Refinery Project

KELOWNA, British Columbia.—James Ryan and L. S. Sweeney, of Calgary, are negotiating for the establishment here of a refinery to cost $50,000, designed to serve the interior of British Columbia.

First Polymerization Plant in Montana Installed at Great Falls

The Home Oil Refining Co. has installed the first polymerization plant in the Northwest in its Great Falls, Mont., refinery.

Continental Buys Site for Refinery at Billings, Mont.

Continental Oil Co. has purchased a 125-acre refinery site in Billings and plans to build a Montana refinery at some future time.

Natural Gasoline

Natural Gasoline Production in California Reported for November

California natural gasoline production totaled 55,539,935 gallons in the month of November, 1938, according to the San Francisco office of the Bureau of Mines. The quantity of gas treated and gasoline produced, as reported by fields appears below:

Field—	Gas treated (thous. cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Belridge	3,332,599	1,886,159
Elk Hills	51,745	106,740
Kettleman Hills	11,128,651	16,217,858
Midway-Sunset	975,447	1,987,378
Mountain View	293,083	341,786
Miscellaneous	934,257	569,873
Coastal district:		
Elwood	460,753	682,800
Rincon	166,775	216,675
Santa Maria	133,600	421,551
Ventura Avenue	3,651,647	5,104,745
Miscellaneous	465,436	443,837
Los Angeles basin:		
Brea-Olinda Coyote	451,876	1,257,671
Dominquez	1,690,305	3,161,505
El Segundo	163,519	337,121
Huntington Beach	1,044,718	3,426,450
Inglewood	273,103	377,948
Long Beach	2,301,750	7,700,090
Montebello	686,534	882,711
Richfield	307,453	554,440
Rosecrans	795,994	975,274
Santa Fe Springs	1,454,467	4,985,263
Seal Beach	391,109	517,324
Torrance	534,377	884,725
Miscellaneous	1,239,062	2,500,011
Totals (all fields)	32,928,260	55,539,935

Distribution	(Gallons)	(Gallons)
Stocks, beginning of month	2,158,133	.....
Production during month	55,539,935	.....
Delivered to refineries	.....	54,605,338
Delivered to jobbers, brokers and blenders	.....	504,411
Blended at plants for production of motor fuel	.....	10,303
Losses	.....	33,265
Stocks, end of month	.....	2,544,731
Totals	57,698,048	57,698,048
Liquefied petroleum gas production	2,745,241 gals. =	65,363 bbls.
Motor fuel produced	10,699 gals. =	255 bbls.

Recycling Project Planned For Southwest Texas

Construction of a recycling plant in Willacy County, in Southwest Texas, by Wisconsin capital is being planned for the purpose of handling distillate production in Shell Petroleum Corp. No. 1 Yturria, Share 64, San Juan de Carricitos grant. Cockburn Oil Co. and Shell recently acquired 6,000 acres from the Yturria Land & Cattle Co. in the vicinity of two wells drilled two years ago by Shell.

Natural Gas News

A.G.A. President Reports Gas Industry Progress

The year 1938 was one of continued progress and expansion for the gas companies in the United States, according to Conrad N. Lauer, president of the American Gas Association. Manufactured and natural gas utilities, supplying towns and cities with a population of 81,000,000, served a total of 17,135,000 customers, representing the largest number of consumers ever connected to the mains of the industry, and an increase of 180,000 over 1937.

Preliminary estimates indicate that revenues of the entire industry, both manufactured and natural, aggregated $786,576,000 in 1938, a decrease of 1.8 per cent from the preceding year. The manufactured gas companies grossed $367,714,000, a gain of 2.2 per cent for the year, while revenues of natural gas companies were $418,862,000, compared with $441,232,000 in 1937, a decrease of 5.1 per cent.

Sales of manufactured gas for domestic uses other than house heating, such as cooking, refrigeration, water heating, etc., amounted to 198,331,000,000 cu. ft., an increase of 1.5 per cent for the year. The gain in house heating sales amounted to 10 per cent. This doubtless would have been larger except for the mild temperatures that prevailed throughout the year in most sections of the country. For somewhat the same reason, the sales of natural gas for domestic uses, which are influenced to a considerable extent by temperature variations, registered a decrease, falling from 359,294,000,000 cu. ft. in 1937 to 350,143,000,000 cu. ft. in 1938, a loss of 2.5 per cent.

Preliminary estimates indicate that the total production of natural gas in 1938, including amounts used in the manufacture of carbon black and for field purposes, reached an all-time high of more than 2,500,000,000,000 cu. ft., or more than 2 per cent above the previous peak established in 1937. Approximately 173,000,000,000 cu. ft. of natural gas were used as fuel for generating electric power in 1938. This was an increase of nearly 2 per cent over the previous year.

Repressuring Is Studied In Turner Valley Field

CALGARY, Alberta.—The Alberta Petroleum Association has named a committee of engineers from leading Turner Valley companies to study repressuring proposals. The committee includes J. Grant Spratt, R. E. Trammel, W. Boyd and J. O. G. Sanderson.

On January 15 the present gas quota of approximately 108,000,000 cu. ft. per day for Turner Valley gas wells, designed to meet the requirements of the Canadian Western Natural Gas Co. and Turner Valley gasoline absorption plants, will be superseded by a restricted gas quota permitting production of such an amount of gas as will be required for lighting, heating and power together with such further amount as may be returned to the earth. This is preliminary to a repressuring scheme to cover the waste of gas from both naphtha and crude oil wells. Engineers of the major companies have already discussed such a scheme with the Conservation Board.

Royalite Oil Co. has installed a small experimental repressuring plant which is to be tested by the Conservation Board. If it proves workable the method will probably be extended to cover all surplus gas.

New York and Pennsylvania Gas Field Operations

COUDERSPORT, Pa., Jan. 7.—Two wells were completed in the New York-Pennsylvania Oriskany sand gas fields during the first week of the new year, and locations were staged for four new wells, two of them in the vicinity of the probable pool opener completed in Sharon Township, Potter County, during the latter part of December.

Sylvania Corp. completed its well on the Roy Harrison farm in Bingham Township, Potter County, for 9,400,000 feet at 5,177 feet. This well topped the Oriskany sand at 5,156 feet, got the first gas at 5,158 feet and drilled through the sand at 5,176 feet. This well's initial rock pressure was 1,175 pounds.

The second completion of the week was that of the New York State Natural Gas Co. on the Sarah Hammond farm, in Troupsburg Township, Steuben County, an extension of the Harrison field. This well had an initial open flow of only 200,000 feet after shot. It topped the Onondaga at 5,009 feet and the Oriskany at 5,036 feet. Bottom of the Oriskany was at 5,059 feet, the total depth of the well.

One of the four new locations was in Troupsburg Township, where the New Penn Development Co. and others are moving in to drill on the E. G. Cady farm.

Other new locations were in Pennsylvania. The two in Sharon Township, Potter County, were staked by Belmont Quadrangle Drilling Co. on the N. Kemp farm and by the Empire Producing Co. on the F. Dickerson farm, elevation of which is 1,913 feet. The third Pennsylvania location was staked by New York State Natural Gas Co. on the F. McCarthy farm in Bingham Township, Potter County.

Pipe Line Activity

Line From Columbia Field To Haynesville Station

SHREVEPORT, La.—Grady H. Vaughan, Dallas, Tex., oil operator, and owner of production in the Magnolia field of Columbia County, Arkansas, is constructing a 2¾-mile 4-inch welded pipe line from the field to the Stephens-Haynesville trunk line of Arkana Transit Corp. of Shreveport. The crude moved through this new outlet for the field, will be taken by Arkansas Fuel Oil Co. at its Haynesville station.

North Dakota Co. Asks Permit for Gas Lines

WASHINGTON, D. C.—Construction of natural gas pipe lines and distribution systems, estimated to cost $4,254,300, has been proposed by North Dakota Consumers Gas Co. in an application filed with the Federal Power Commission.

The company stated that it had contracted with Montana-Dakota Utilities Co. for an adequate supply of gas and will accept delivery of gas at the end of Montana-Dakota high pressure line at Mandan, N. D. The company proposes to operate systems for gas sale in 32 North Dakota cities and one Minnesota municipality and to sell at wholesale to other companies in four North Dakota and three Minnesota cities.

North Dakota Consumers Gas Co. also filed protests with the commission against granting similar applications of the Kansas Pipe Line & Gas Co. and the Public Service Gas Co.

Line From Foust Field To S. P. Railroad

FORT WORTH, Tex.—A crew has started work laying a pipe line from the Foust oil field, 9 miles north of Edna, to the S. P. Railroad track, to be about midway between Edna and the Lavaca River. The railroad will build sidings and loading racks at this point.

Rodessa and Cotton Valley Short Line Construction

SHREVEPORT, La.—Standard Oil Co. of Louisiana is laying a 2-inch gathering line in the Cotton Valley field of Webster Parish, preparatory to connecting to 32 gas-distillate wells.

In the Cass County part of the Rodessa field, American Liberty Pipe Line Co. is laying approximately 2½ miles of 4-inch pipe line from its Wiley pump station to the United Gas' Simpson station. When the line is finished, United will transport American Liberty crude to Longview, Tex.

Backfilling pipe line ditch in Clay City field, Illinois

INTERNATIONAL

Three Wildcat Tests To Be Started Soon In Venezuela

Three new wildcat tests are to be started in the near future in widely scattered sections of eastern Venezuela. Texas Co. is preparing to drill a test on its concession tract about 10 miles south of Standard of Venezuela No. 1 El Roble—which is one of the most interesting operations in eastern Venezuela because of its blow-out and flow of oil and gas between two strings of casing. Texas Co.'s tract extends to within a mile or two of Mene Grande Oil Co. No. 1 Santa Ana, a large gas well which has supplied most of the fuel for subsequent exploration in that part of the State of Anzoategui.

In the southeastern part of the District of Monagas, Socony-Vacuum Oil Co. is preparing to drill another test 10 to 15 miles southeast of San Diego failure completed a few weeks ago.

About 10 miles north of Ciudad Bolivar in the District of Independencia, southeastern part of the State of Anzoategui, Caribbean Petroleum Co. is preparing to drill another test on its holdings. The company recently completed a test in this region which failed to obtain commercial showings.

Standard Oil Co. of Venezuela No. 1 El Roble, the deep test on acreage acquired to the extent of a 50 per cent interest from Pantepec, remains mudded in. Rains have prevented operators from moving in necessary equipment for controlling the well while attempting to correct the leaking cement job, or casing joint.

Rumanian Export Deals With Italy, Germany and France

More than 50 per cent of Rumania's exportable petroleum is involved in three important trade agreements concluded at Bucharest during the past six weeks. Trade agreements have been accepted by Rumania with Germany, Italy and France. The three agreements appear to blanket approximately 18,500,000 bbls. to 20,000,000 bbls. of Rumania's exportable petroleum during 1939.

Territorial acquisitions by the Reich made new arrangements with Germany necessary. The Sudetenland was formerly supplied with oil by Rumania and shipments to what was formerly Austria had been covered only by provisional agreements.

Under the new Germany-Rumania agreement shipments of oil from Rumania to Germany will, as before, comprise 25 per cent by value of total exports to the Reich. Since the total volume of trade between the two countries will now be larger than heretofore because of inclusion of Austria and Sudetenland, German purchases will probably account for some 25 per cent of Rumania's aggregate oil shipments. Rumania's sales of oil to Germany will not provide any additional supplies of free currency for Rumania since clearing arrangements are operative. Under the new agreement the rate of exchange with the mark is increased from 38 to 41.50 lei (sellers) and to 40.50 lei (buyers).

The new arrangement between Rumania and Italy became operative January 1. The Italians were anxious to increase their trade with Rumania since oil purchases can thus be handled on a barter basis whereas supplies from the United States required free currency in payment. Italian purchases for 1939 are put at the following approximate amounts: 750,000 bbls. of gasoline and kerosene; 420,000 bbls. of gas oil; 3,500,000 bbls. of residual fuel oil; 75,000 bbls. of lubricants and 450,000 bbls. of crude oil. The provisional total of about 5,200,000 bbls. of petroleum for Italian consumption is considerably higher than purchases in 1937. Rumania has succeeded in obtaining an agreement whereby Italy will pay for 10 per cent of her petroleum purchases in free currency. The rate of exchange has been fixed at 7.172 lei to one lire.

In the negotiations with France, Rumania held out for export of finished products. France, on the other hand, desired to obtain crude oil supplies for its internal refining industry. Rumania was successful, however, in insisting on delivery of finished products. As a result, France will obtain approximately 3,720,000 bbls. of gasoline, about 400,000 bbls. of gas oil and 150,000 bbls. of kerosene from Rumania during 1939.

The further sacrifice of free currency by Rumania in view of its most recent trade agreements is considered by observers as an ill advised step. Rumania's internal consumption of petroleum is steadily mounting. During the first 10 months of 1938 the total domestic consumption was placed at approximately 10,260,000 bbls., compared to approximately 9,603,480 bbls. in the same 1937 period.

Production Test Of 41 Feet of Sand In Kuwait Well

Casing is to be set for a production test of 41 feet of sand encountered from about 4,030 to 4,075 feet in Kuwait Oil Co. No. 2 Burghan in the independent kingdom of Kuwait on the extreme northwestern tip of the Persian Gulf. The sand appears to correlate with the "main pay" or "second pay" on Bahrein Island which is predominantly lime at that point.

The rig will be moved to location for No. 3 Burghan about 2¾ kilometers (1/10 miles) east and a little north of the No. 2 well which in turn is about the same distance east of the discovery. The first producer in Kuwait was completed late last year at total depth of 3,682 feet, producing an undetermined volume of 34° A.P.I. gravity crude from total depth of 3,682 feet.

Kuwait Oil Co., jointly owned by Anglo-Iranian Oil Co. and Gulf Oil Corp., drilled a deep failure in 1937-38 on the north side of Kuwait Bay about 50 miles north of the No. 1 Burghan discovery producer. The failure was carried to 7,950 feet without obtaining commercial showings of oil or gas and its abandonment was followed by further geophysical work leading to selection of the Burghan structure for further exploration.

Five Rotaries Will Soon Be Busy in Saudi Arabia

The California Arabian Standard Oil Co., subsidiary of Standard Oil Co. of California, plans to have at least five rotary rigs in operation on Dammam dome, in Saudi Arabia, by February, according to the company's review of operations recently released.

Three shallow wells have been deepened to the more prolific pay horizon at 4,700 feet (known locally as the Arab zone), where prolific production, ranging upward from 4,000 bbls. per day, has been found. Each of the completed wells is currently held to not more than 2,000 bbls. per day, due to physical limitations. About 5,000 bbls. of Saudi Arabian crude is being transported daily through a 6-inch line to Al Khobar, on the Persian Gulf, and from there by barge to the Bahrein Island refinery for processing.

The California Arabian Standard Oil Co. is now engaged in completing its permanent camp at Dammam, and is constructing a 10-inch pipe line 43 miles northeast to Ras Tanura, where loading facilities are being provided.

About 100 miles northwest of Dammam, the company is drilling a wildcat test at Abu Hadriya. The concession held by California Arabian company, extending for a period of 60 years, is slightly larger than the entire State of California, which contains approximately 158,300 square miles.

Effect of German Inroads Upon Czecho-Slovakia

Out of 13 petroleum refineries located on the former territory of the Czecho-Slovakia Republic, two have been lost by the German occupation. The refinery at Sumperk, Moravia, owned by the firm of Apollo-Naft Akc. Spol., and the refinery at Privoz near Moravaska Ostrava, owned by the firm of Fantovy Zaody Akc. Spol. were the two plants involved.

The Sumperk refinery, due to its antiquated equipment, produced only small amounts of finished material. The Privoz plant was closed entirely for some time prior to the German occupation. The large and modern refinery at Dubova, Slovakia, owned by the state and built recently at a cost of about 50,000,000 crowns, has already begun operations.

Possible further loss of territory to Hungary would probably result in the loss of only one small border refinery, owned by the firms of Weinberger and Ortner, located at Michalany, Slovakia. At Bratislava, a large plant owned by the Apollo-Naft Akc. Spol., is controlled by French capital.

Since practically the entire number of refineries and the most important distributors remained within the new borders of Czecho-Slovakia, the petroleum trade will be rather congested.

ENGINEERING and OPERATING

In This Issue

OTIS, KANSAS, GAS PROCESSED FOR MARKETING AT NEW PLANT
By Harry F. Simons ..... *Page 44*

Conditions affecting development of the largest Kansas gas field and the marketing of production are described. The manner in which drilling has proceeded in relation to the geological structure is reviewed. Special attention is given to the construction and operation of a processing plant preparing gas for domestic and industrial markets.

SAFETY—INCLOSED TONG WEIGHTS ..... *Page 46*

The problem of hanging counterbalances in such a way that accidents may be avoided has been studied by drilling crews. A method employed by a major company operating in the Illinois field has provided a satisfactory safeguard for operations in that area.

NEW ABSORPTIVE CAPACITY TEST FOR GASOLINE PLANT OPERATION
By D. B. Johns ..... *Page 53*

The quantity and quality of oil circulated are factors of major importance in natural gasoline plants. The quality of absorption oil, as reflected by absorptive capacity, is discussed in connection with the presentation of a new and simple test procedure.

PRODUCTION ECONOMICS OF VITAL IMPORTANCE IN SMACKOVER
By George Weber ..... *Page 57*

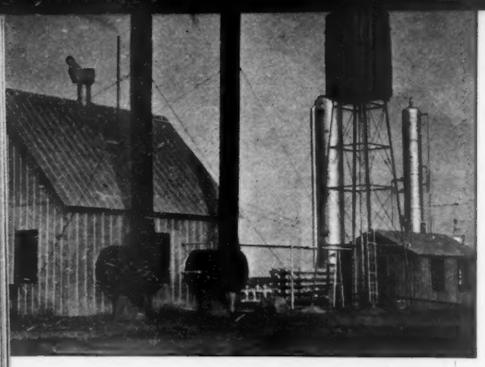
Making a profit in operating stripper production, where 95 per cent of the fluid is water, requires careful planning in the selection of equipment and operating practices. In this account of means used by producers in a large Arkansas field, the author treats existing conditions, lifting costs, basis on which labor is paid, rig fronts, power used for pumping, and well servicing.

METAL PROGRESS—*By W. L. Nelson* ..... *Page 48*

OPERATING IDEAS ..... *Page 50*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 59*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph.D.* ..... *Page 60*



General view of the desulfurization and dehydrating plant in the Otis, Kansas, field showing boiler shed, pump shed, contact tower and chemical reboiler

Otis, Kansas, Gas for Market at

By HARRY F. SIMONS

Gas from the Otis, Kansas, field which is unmarketable in its natural state because of its high hydrogen sulfide and water content is being made suitable for domestic and commercial consumption by the sweetening and dehydrating plant of the Producers Gas Co., of Hays, Kans. The plant is located in the NE NE NW of Section 14-18s-16w, Barton County, Kansas, and was put into operation about three months ago. The installation was designed and erected by J. F. Pritchard & Co., of Kansas City, Mo.

The field was discovered on March 3, 1930, with the drilling in of the Morgan & Flynn and Glimac Oil Co. No. 1 Eitel Estate, in the C NW of Section 11-18n-16w, for an initial production of 16,500,000 cu. ft. of gas from the Reagan sand from 3,507-09 feet. Mid-Kansas Oil & Gas Co. completed the first oil well on August 23, 1934, when its No. 1 Mohr, C NW of Section 10-18n-16w, came in for 153 bbls. of 35-gravity oil from sand found from 3,527-36 feet. The well was later deepened to 3,581 feet, but the production decreased.

Mostly Gas Wells

The structure is a large anticline with a northwest to southeast trend which is still not completely defined. Practice was at first to drill one well on 40 acres, but this was abandoned in favor of 160-acre spacing; some sections in the pool contain only one well. Because of the great interval between well sites, a large area extending over part of Barton and Rush counties has been proven productive by comparatively few wells. The field occupies the greater part of two townships, 18s-15w and 18s-16w, and extends into Township 17s-16w.

Oil wells are confined mostly to the southeast flank of the structure and the extreme southerly development, where the greatest concentration of oil wells is apparent, is designated as the Albert pool. On the highest part of the structure very little oil is found below the gas, but there are some indications that there may be some production overlaying the gas horizon and probably separated from it by only a slight, impervious interval. A peculiar characteristic of some of the oil wells is that the oil and gas production increases slightly as the wells grow older.

At present the Otis pool is the largest prospective producer of gas in Kansas with an open flow potential of over 1,000,000,000 cu. ft. daily. The wells vary in size from 1,000,000 to 118,000,000 cu. ft. per day. At present there are no wells drilling, but 10 wells, 35 gas wells, and 15 combination gas and oil wells have been completed since the field's opening. While the first wells were drilled with cable tools, later development utilized the rotary method.

The Northern Natural Gas Co. started taking gas from the field in 1932 as some of the earlier wells produced sweet gas. They later built a sweetening plant in Section 16-18s-15w, in Barton County, when the large sour gas wells were completed. The gas is transported through an 19-inch spur line to its main 26-inch line which carries the gas to Minneapolis, St. Paul and other northern cities. They are still the largest single marketer of gas from the field, their demands being particularly heavy during cold weather.

Besides the Producers' marketing facilities in Kansas, the Kansas Pipe Line & Gas Co. markets gas from the Otis field in Kansas and Nebraska, and the Kansas Power & Light Co. supplies some of its requirements from this source. The Distributors Gas Co., Inc., purchases part of the gas, and Central Gas Utilities Co. has gas purchased from Ohio Oil Co. processed at the Producers' plant. While there has been some pipe line outlet for the gas, the oil produced in the field is transported to Kansas refineries by railroad tank-cars. The new plant, which replaces an old one located in Section 12-18s-16w, is an important feature in providing an outlet for the gas. Development of the area has been greatly curtailed because of lack of a market for both the oil and gas.

The new sweetening and dehydrating plant of the Producers Gas Co. has a capacity of 70,000,000 cu. ft. per day, but the daily average run since it started operating in August has been around 10,000,000 cu. ft. per day. With the coming of winter weather the plant will be able to operate nearer to its capacity due to the increase in demand. Plenty of fuel is available in the field for processing, but production of the plant is dependent on the market. The plant is so designed that it will operate more efficiently when handling large volumes of raw gas.

The Producers Gas Co. has some production of its own in the field, but it also purchases gas from other producers. Four 6-inch metered manifolds are located on the intake side of the plant and a four-metered line manifold measures the processed gas before it is delivered into the marketing lines. Ohio Oil Co. has eight wells supplying gas to the sweetening plant; Schermerhorn-Winton have five wells, and Morgan, Flynn and Cobb have eight wells.

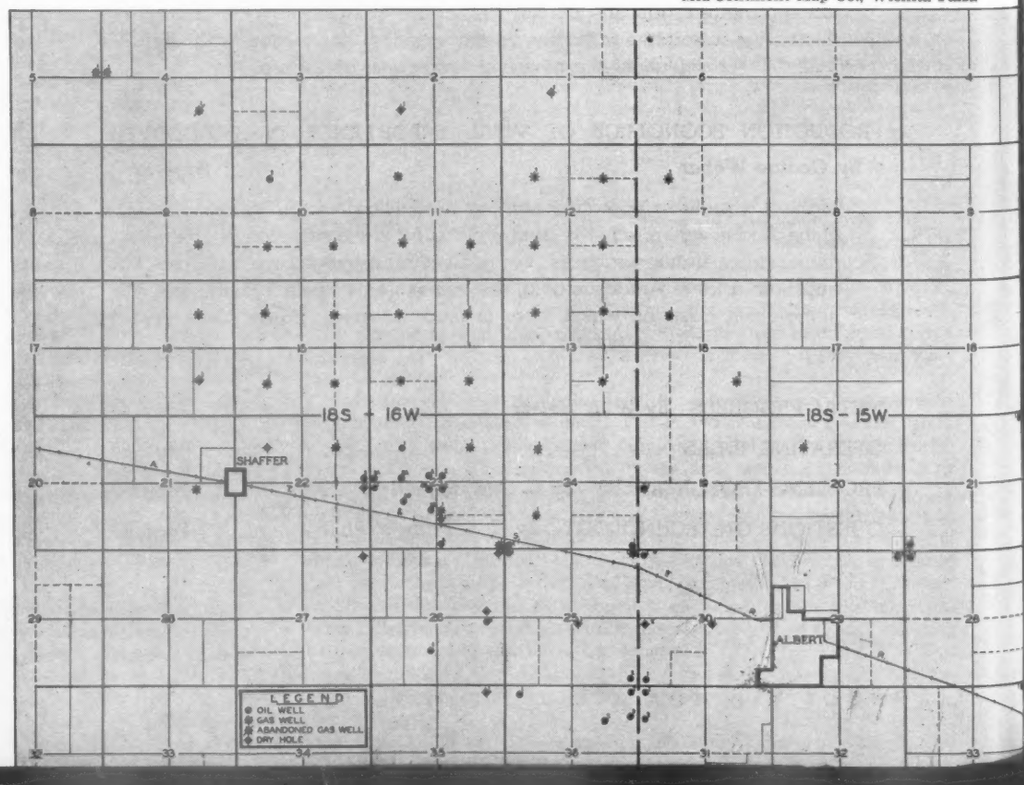
Sour Gas

Legal requirements demand that a gas sold commercially shall be not more than 1½ grains sour (grains H_2S per 100 cu. ft. of gas) while the gas delivered by the Producers plant is normally only one-third of that amount and frequently is as little as 0.1 grain sour. The gas as delivered to the plant averages 24.8 grains sour, and approximately 98 per cent of the hydrogen sulfide is removed there.

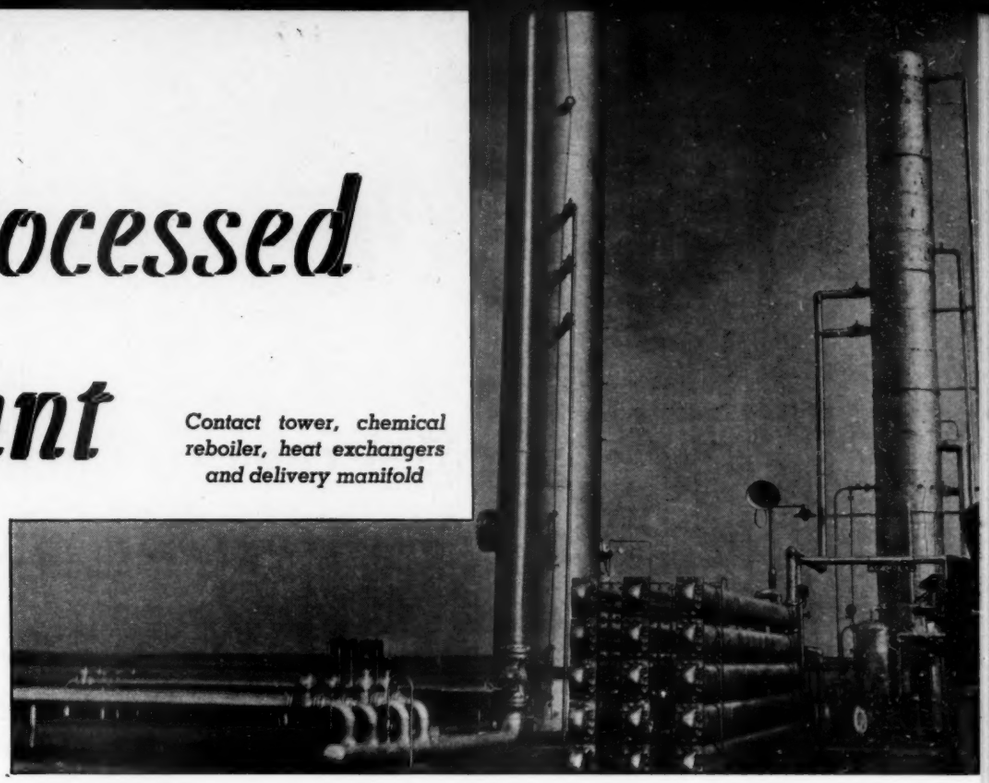
Gas coming into the plant contains enough water for the dewpoint to be 42° F. All but very little of the water and hydrogen sulfide are removed in the contact tower as the gas ready for delivery has a dewpoint of —2° F., and sourness of around 0.5 grain per 100 cu. ft. The test for water can be made at any time as a copper tube comes from the manifold to the testing machine in the pump control room where it is passed into a chamber which is equipped with a sight glass

Plat of Otis, Kansas, field showing wide spacing of wells and large area

Mid-Continent Map Co., Wichita-Tulsa



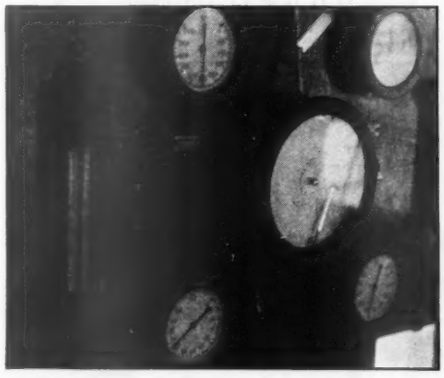
Being Processed New Plant



Contact tower, chemical reboiler, heat exchangers and delivery manifold

and thermometer; the chamber is cooled by Skelgas. Temperature can be observed when moisture starts to form in the glass. Quantity of H_2S in the raw and finished gas in determined directly by a sampling device which pulls the gas through a graduated tube filled with a selected granular drying agent; discoloring of the granular material in the tube is read directly in grains H_2S per 100 cu. ft. of gas.

Presence of water and hydrogen sulfide in a burning gas results in the formation of sulfuric acid but the unconsumed hydrogen sulfide is a source of danger to the consumer as it is very toxic. An excess of water is a constant danger due to the formation of deposits at temperatures higher than the freezing point and they increase rapidly as the pressure increases. If a pressure of more than 175 pounds per square inch is used, it is essential that the gas be dehydrated. Condensing and freezing in the line may result in



Central control panel located in the pump room at the desulfurization and dehydrating plant for making gas marketable

interrupted service and the water also lowers the heat value of the gas and increases its corrosiveness.

The plant consists of the following main features: gathering manifold, contact tower, discharge manifold, chemical reboiler still, heat exchangers, storage tank, pumps and pump house, cooling tower and boiler shed. The gathering manifold and the discharge manifold are similar, both consisting of a 10-inch header and four 6-inch laterals equipped with orifice meters for the measuring of the gas coming into and delivered from the plant. Pressure maintained on the discharge manifold is close to 500 pounds per square inch, slightly lower than the pressure at which it enters the contact tower.

The sour gas enters through a 10-inch line at the bottom of the contact tower and passes upward and exits through a 10-inch line at the top of the tower. Under present operating conditions there are nine trays in the tower but arrangements have been made for the addition of three more when and if it becomes necessary.

A solution, consisting of from 75 to 90 per cent diethylene-glycol mixed with from 10 to 15 per cent of monoethanolamine and the balance water, is drawn from the solution storage tank; it is pumped through a series of heat exchangers and solution coolers and to the contact tower. In the contact tower, the cool solution is brought into counter-current contact with the natural gas at pipe line pressure and the solution absorbs the water vapor, hydrogen sulfide and carbon dioxide from the gas.

Reaction for the monoethanolamine in the tower is as follows:

$$RNH_2 \quad H_2S \xrightarrow{\text{cold}} RNH_2HS \qquad (1)$$

$$2\ RNH_2 \quad CO_2TH_2O \xrightarrow{\text{cold}} (RNH_2)_2\ H_2CO_3 \qquad (2)$$

The diethylene-glycol is believed to react in the tower in the following manner:

$$\begin{matrix} CH_2OH \\ | \\ CH_2 \\ \| \\ CH_2 \\ | \\ CH_2OH \end{matrix} \quad O + H_2O \xrightarrow{\text{cold}} \quad \begin{matrix} CH_2OH \\ | \\ CH_2OH \\ | \\ CH_2OH \\ | \\ CH_2OH \end{matrix} \qquad (3)$$

The chemical reaction equations are not used in calculating the absorption as it is easier to compute the equilibrium vapor pressures obtained with a given efficiency of contact.

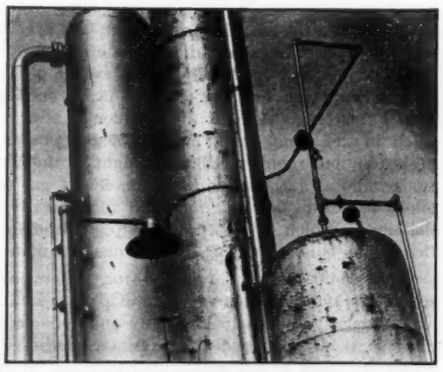
The solution carrying absorbed water vapor, hydrogen sulfide and carbon dioxide leaves the contactor tower through a float controlled valve and goes through a heat exchanger and preheater to the reboiler still. The heated solution enters the still on a feed plate and the hydrogen sulfide and carbon dioxide flash from the solution along with some water and a small amount of diethylene-glycol monoethanolamine. As the solution drops from tray to tray, it is contacted with a stream of heated gas and vapor rising from the reboiler element in the still base. The regenerated hot solution flows from the still to the solution storage tank where it is picked up by the high-pressure pump, passed through cooling coils and again introduced into the contact tower.

A small amount of hot water is admitted to the top of the still as a reflux to knock back the diethylene-glycol and the monoethalolamine vapors that flash off the solution on the feed plate along with the undesirable gases. Natural gas in small quantities is admitted to the still to assist in removing excess water vapors from the solution. The sweep gas and hydrogen sulfide can be used for boiler fuel but for the most part it is burned in a flare.

During a typical day's run at the Otis plant, 295.3 pounds of water and 163.2 pounds of hydrogen sulfide were removed from 12,840,000 cu. ft. of gas. Inlet gas on this day was being carried at 470 pounds pressure while the discharge of the chemical from the pump was at 520 pounds pressure. Reboiler temperature was maintained at 280 degrees. Temperature of the water used in the heat exchanger coils is controlled by passing it through a cooling tower. This tower is designed in sections so the full height will cool the water during the hot summer months but only the lower sections need be used during cold weather.

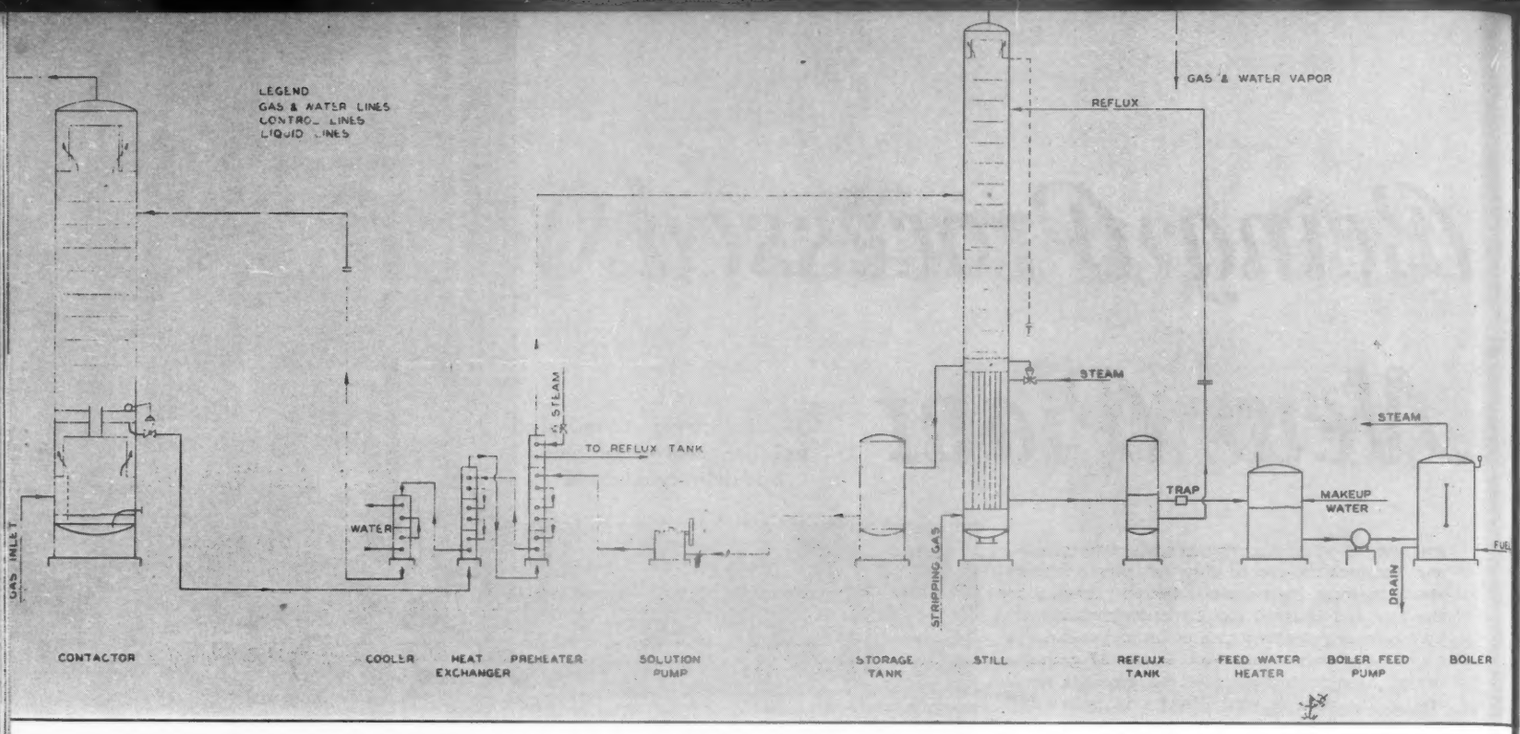
Closed Cycle

Because of the closed cycle which the chemical travels, not a great amount is required in the system, only 910 gallons being added up to the present time. The diethylene-glycol forms 75.7 per



Contact tower, reboiler, and chemical reservoir at processing plant

cent of the solution, the monoethanolamine, 14.8 per cent, and the balance is water. The amine is regulated to be 5.115 per cent of the glycol used and this balance is maintained as long as the boiling point of the amine (342° F.) is not exceeded. Only small amounts of amine and glycol are added from time to time as very little of the chemical is carried over into the delivery line by the sweetened gas. Quantity of solution required in circulation varies with the volume of gas to be treated, the amount of hydrogen sulfide and



Flow diagram for Producers Gas Co.'s processing plant in the Otis, Kansas, field

carbon dioxide to be removed, the operating pressure of the contactor and the proportion of monoethanolamine in the solution.

Tests for condition of the chemical solution are made daily, 0.1 normal sulfuric acid being titrated into a sample and the amount of monoethanolamine calculated from the result. For the presence of H_2S in the solution, the sample is diluted 50 per cent with the 0.1 normal $H_2(SO)_4$ and a starch solution added and titrated against 0.1 normal iodine solution and the results calculated.

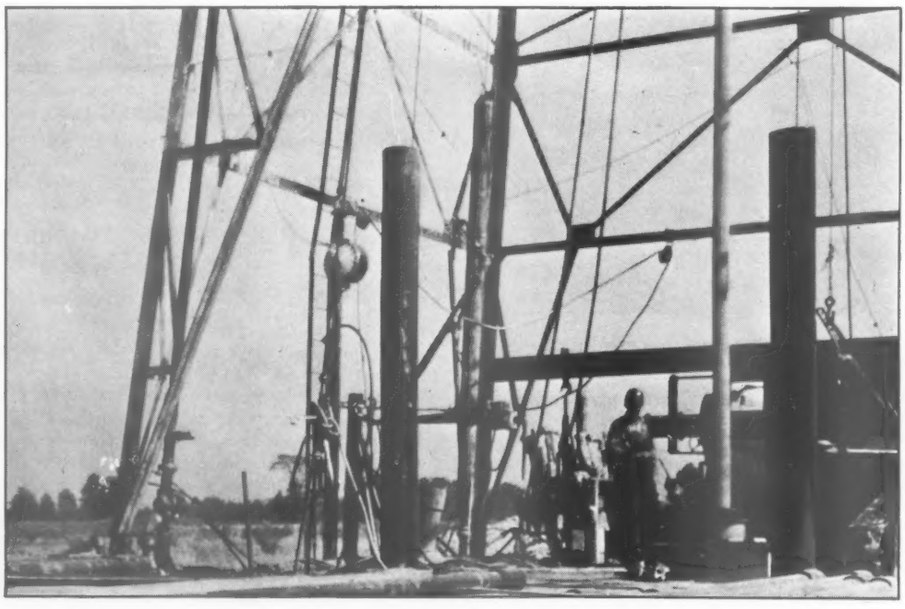
Controls in Pump Room

Central controls for the plant are located on a panel in the pump room which also includes a small laboratory for testing. The pump room contains two steam coils for heating during the cold weather. Two 10 by 2¼ by 12-inch, center packed, Worthington pumps are used for moving the sweetening and dehydrating solution through the contactor tower. A 4½ by 3¾ by 4-inch Worthington duplex pump is used for the cooling water circulation. A by-pass is provided in the steam line so either exhaust steam from the pumps, or live steam directly from the central heating plant, can be used for heating the chemical reboiler still, a heat regulator for the reboiler is also located in the pump room. Steam for the pumps, preheater and reboiler still is brought to the various units at 125 pounds pressure. Sweet gas is taken from the delivery manifold for operating the engine which drives the water pump and for firing the boilers in the central heating plant.

Two 80-hp. boilers are used for generating steam for the requirements of the plant; while operating at present capacity, only one boiler operating at 125 pounds pressure is necessary. Steam pressure is automatically controlled by a fire regulator which operates from the steam delivery line. Feed water is put into the boiler by a 6 by 4 by 6-inch duplex pump which is automatically controlled and maintains constant water level in the boiler. The steam system is entirely closed and makeup water is treated by a Zeolite water softener. Only occasional trips to the boiler shed are necessary to see that the automatic equipment is functioning. Once a week the water softener is recharged.

1. "Effective desulphurization at Low Cost," Gas Processes Division, the Girdler Corp., Louisville, Ky.
2. "Absorption and Extraction," Thomas K. Sherwood, p. 194, McGraw-Hill, 1937.
3. Carbide & Carbon Co., "Diethylene-Glycol," page 1 and chart G. B. 9.

SAFETY — Enclosed Tong Counterbalances



Several states have rules governing the hanging of tong counterbalances on rotary rigs that are designed to protect the men working on the derrick floor. The general restriction is that counterbalances should not be hung at an elevation greater than 6 feet; this prevents a man from being under them in case a line should part and the counterbalances fall.

Many roughnecks and drillers have studied this problem closely, particularly after having bumped their heads against one of the counterbalances. The stock phrase for the drilling crew, when one of its members thus injures himself, is "There are two of those on every drilling rig."

Introduction of substructure derricks aided in solving this problem as the space beneath the floor allowed the placing of the counterbalances there where they were out of the way and were not a source of danger.

In Illinois few substructure derricks are used but the crew on this Carter Oil Co. rig has solved the problem by enclosing the counterbalances in the joints of 12½-inch casing which are seen on the near side of the derrick floor. Possibility of a man raising from a stooping position and having his head strike the bottom of a counterbalance is thus removed. The counterbalances work easily on the inside of the casing if they are greased.

A story in two letters

A certain Dubbs licensee recently broke a record, and here is what we wrote him:

> *Congratulations on your record breaking run—120.5 days on reduced crude*

Here is what he replied:

> *Thanks for your congratulations*
>
> *We wish to assure you that this run was not made for the purpose of record-breaking but was a necessity caused by shortage of our Dubbscracked gasoline*

His customers had found out how good Dubbscracked gasoline is—and there wasn't enough to go round

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Progress in METALS

By W. L. NELSON

Flame or Selective Hardening

It appears that flame hardening would be particularly useful in the oil industry because it does not entail a large outlay of furnaces, etc., and therefore could be used in the field on many miscellaneous parts. The process consists essentially of rapidly heating the surface of the part by means of an oxyacetylene torch and then cooling the surface immediately by a blast of air or water. The operation can be synchronized in many instances so that the quenching medium follows directly after the torch.[1] Several types of flame hardening machines are today being used in the United States. Some of these are the Gleason, Sykes Gear Machine, Monitor and Universal Types.[2]

Chemical analysis alone does not guarantee a good flame hardening steel but in general these steels must contain enough carbon[3] to permit the formation of hard constituents such as martensite and troostite—and small amounts of alloy elements to cause the alloy to be air hardening.[2] Analyses are given in a previous paper[1] and by Rolf.[2] Fine grain steels (6-8 McQuaid-Ehn) with only a slight abnormality are preferable. Either forged or cast metals may be hardened and unmachined parts should contain about 10 points more of carbon than machined parts because the surface of unmachined castings is usually decarburized to some extent.

John T. Howat[3] makes the following statements concerning established facts:

"The process is most flexible, and has an unlimited range of adaptability as size or shape of any part now offers no restrictions for heat-treatment, provided the surface area to be hardened is not too large a single area of thin section.

"The process imparts to the steel the high surface hardness of the case or carburizing treatment with the toughness of a fully-quenched carbon steel, and the distortion and residual heat-treating stresses are all reduced to the minimum.

"There is no sudden change in chemical analysis or micro-structure with a sharp line of demarcation between the hardened zone and the core as is found in all case-hardened work. A hardened zone is produced at least two to three times the depth obtainable by carburizing, which will not spall with impact, vibration, or deformation."

References

1. W. L. Nelson, Flame Hardening of Surfaces, page 44, The Oil and Gas Journal, September 8, 1938.
2. R. L. Rolf, Selective Hardening of Ferrous Materials With Oxyacetylene Flame, paper before the International Acetylene Association, November, 1937.
3. J. T. Howat, Flame Hardening, paper before the International Acetylene Association, November, 1937.

Welding Stainless-Clad Steels

The application of metal-clad vessels, lines, etc., for corrosive conditions is attracting more and more attention. Some of the details of making welds in stainless-clad steel are indicated in Figure 1. Clad-steel is easier to weld than plain stainless steel because the background of plain steel serves to conduct the heat away with sufficient rapidity except in extreme cases. For the most severe service, the stainless steel should contain columbinum or titanium to alleviate brittleness. Warpage tends to take place because of the two metals bonded together and for this reason heat treatment should be avoided if possible.

The type of joint depends to a large extent upon the thickness of the material (Figure 1). For material thinner than 16 gauge either the ordinary buttweld or the flange buttweld (depressed edge weld) can be made using stainless steel welding rod. In thicknesses up to one-eighth inch, the flange joint or the butt-type joint is recommended but for thicknesses between one-eight and three-eighths inch the single V-weld should be used. In the V-weld, the weld is made from the stainless side using stainless rod. For greater thickness, a double V-weld is necessary. The plain steel side is welded first using regular rod, and then the stainless side is closed with stainless rod. Welds in corners should be avoided, particularly with thin material because the flame tends to overheat the corner. In all cases, if the stainless side is welded first, flux should be painted on both sides. Additional details of all of the points mentioned above may be obtained from "Oxy-Acetylene Tips" of the Linde Air Products Co., page 197, September, 1938.

Two alternates are available in making flanges for metal-clad pipe lines or tubes. The entire flange may be cut from the corrosion-resistant material and fastened by means of welding with a suitable kind of welding rod. The other alternate is to machine a steel flange to receive an overlay of corrosion-resistant material. Enough metal is cut from within the bolt circle to allow two layers of welded clad-metal. In making two layers of welding, the flux must be carefully removed from the first weld before the second is applied.

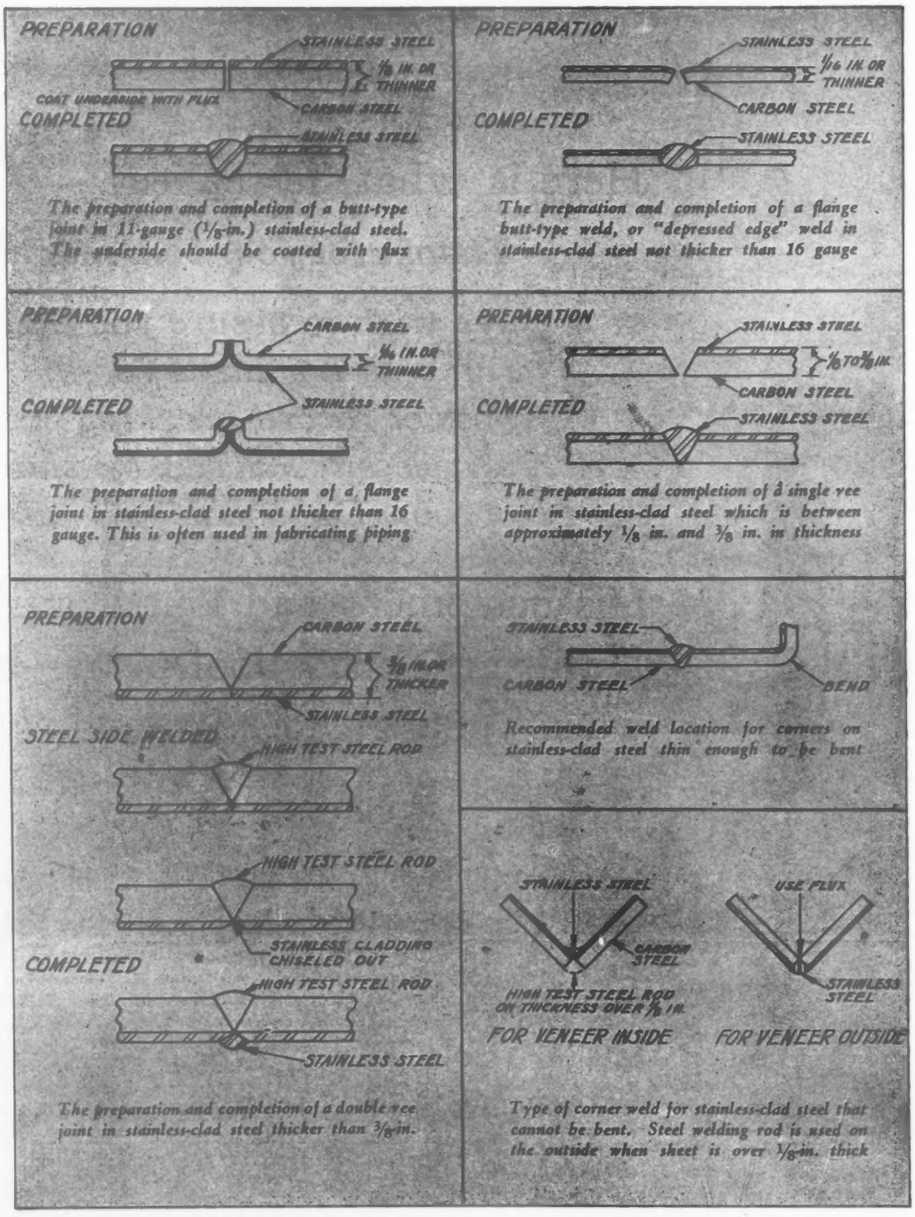

PREPARATION
STAINLESS STEEL
1/8 IN. OR THINNER
COAT UNDERSIDE WITH FLUX
CARBON STEEL
COMPLETED
STAINLESS STEEL
The preparation and completion of a butt-type joint in 11-gauge (1/8-in.) stainless-clad steel. The underside should be coated with flux
PREPARATION
STAINLESS STEEL
1/16 IN. OR THINNER
CARBON STEEL
COMPLETED
STAINLESS STEEL
The preparation and completion of a flange butt-type weld, or "depressed edge" weld in stainless-clad steel not thicker than 16 gauge
PREPARATION
CARBON STEEL
1/16 IN. OR THINNER
COMPLETED
STAINLESS STEEL
The preparation and completion of a flange joint in stainless-clad steel not thicker than 16 gauge. This is often used in fabricating piping
PREPARATION
STAINLESS STEEL
1/16 TO 3/16 IN.
CARBON STEEL
COMPLETED
STAINLESS STEEL
The preparation and completion of a single vee joint in stainless-clad steel which is between approximately 1/8 in. and 3/8 in. in thickness
PREPARATION
CARBON STEEL
3/8 IN. OR THICKER
STAINLESS STEEL
STEEL SIDE WELDED
HIGH TEST STEEL ROD
HIGH TEST STEEL ROD
STAINLESS CLADDING CHISELED OUT
COMPLETED
HIGH TEST STEEL ROD
STAINLESS STEEL
The preparation and completion of a double vee joint in stainless-clad steel thicker than 3/8 in.
STAINLESS STEEL
CARBON STEEL
BEND
Recommended weld location for corners on stainless-clad steel thin enough to be bent
STAINLESS STEEL
CARBON STEEL
HIGH TEST STEEL ROD ON THICKNESS OVER 1/8 IN.
FOR VENEER INSIDE
USE FLUX
STAINLESS STEEL
FOR VENEER OUTSIDE
Type of corner weld for stainless-clad steel that cannot be bent. Steel welding rod is used on the outside when sheet is over 1/8 in. thick

Fig. 1.—Procedures for preparing and completing various types of welds used for stainless-clad steel employed in several kinds of fabrication

BAROID PRODUCTS FOR Mud Control

WHEN you need them--

WHERE you need them--

★ Stuck drill pipe, caves, blow-outs and loss of water to the formation are difficulties that may be largely avoided by careful mud control through the use of Baroid Drilling Mud Conditioners.

USE AQUAGEL
for a trouble-free drilling mud and for conditioning.

USE BAROID
to help prevent blow-outs and to help control caving.

USE STABILITE
to help prevent gas-cutting and to maintain muds at workable viscosities.

USE BAROCO
to avoid trouble in drilling through salt and salt water.

USE FIBROTEX
to help prevent bad losses of circulation.

Use BAROID TESTING EQUIPMENT
to aid in maintaining the uniform quality of the drilling mud.

For rapid, convenient and economical drilling mud delivery service anywhere, call the nearest Bridgeport Store or Office — at any hour of the day or night.

WE MAINTAIN DRILLING MUD STOCKS AT STORES AND SUB-DISTRIBUTOR WAREHOUSES AT THE FOLLOWING POINTS.

TEXAS
ARKANSAS CITY
CORPUS CHRISTI
ELECTRA
HOUSTON
KERMIT
OAKWOOD
ODESSA
PALESTINE
PAMPA
WICHITA FALLS

OKLAHOMA
BOISE CITY
BRAMAN
CALVIN
CUSHING
FAIRFAX
FITTSTOWN
McALESTER
NASH
OKLAHOMA CITY
PERRY
PIKE CITY
SAYRE
SEMINOLE
STILLWATER
STROUD
WAUKOMIS

KANSAS
ALBERT
ARKANSAS CITY
ASHLAND
BUSHTON
CANTON
CHASE
CLAFLIN
CODELL
CUNNINGHAM
DODGE CITY
ELLINWOOD
EUREKA
GORHAM
GREAT BEND
GRIDLEY
HAYS
HOLYROOD
HUTCHINSON
LORRAINE
LYONS
MADISON
MEDICINE LODGE
NEWTON
NICKERSON
POTWIN
PRATT
PROTECTION
RUSSELL
SCOTT CITY
STAFFORD
SUSANK
SYLVIA
TORONTO
VIRGIL
WAKEENEY
WELLINGTON
WICHITA

NEW MEXICO
BUCKEYE CITY
LOVINGTON

COLORADO
LAMAR

LOUISIANA
SHREVEPORT

ILLINOIS
CENTRALIA
ST. ELMO

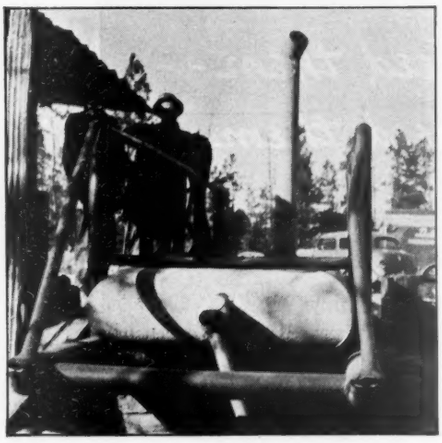
BRIDGEPORT

THE BRIDGEPORT MACHINE CO. Factory and General Offices, Wichita, Kan.

HOUSTON	DALLAS	SAN ANTONIO	CORPUS CHRISTI	ODESSA	FORT WORTH
L D 203 Local "Cap" 1301	L D 584 Local 2 4282	L D 219 Local "Gar" 5671	L D 31 Local 574	L D 683 Local 684	Local and L D 3 3506

SHREVEPORT	CENTRALIA, ILL.	TULSA	OKLAHOMA CITY	BARTLESVILLE	WICHITA	AND BRANCH STORES
L D 15 Local 6481	Local and L D 589	L D 681 Local 5 3204	L D 785 Local 7 2725	Local and L D 3410	L D 59 and 116 Local 2 1431 and 2 1432	

OPERATING IDEAS



Portable Feed Water Heater

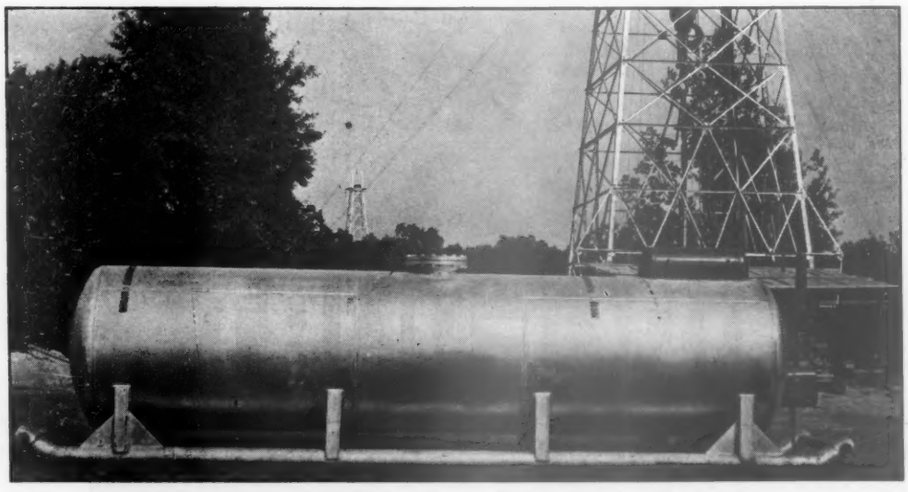
A feed water heater, composed of a rectangular coil of 14-inch line inside of which is a coil of small pipe, utilizes exhaust steam from the feed water pump and turbine. A short stack provides for disposal of any steam not condensed during passage through the heater. This unit is skid-mounted for easier handling when moving the rig; the addition of a truss-braced railing on each side facilitates loading on a truck; this unit also becomes a handy rack in which stairways, spare pipe, and odd fittings can readily be stored when the rig is moved.

Guard for Gas Line Crossing a Highway

To prevent children from walking along a pipe line where it overpasses a highway, one natural gas company has installed the protective device shown in the accompanying photograph on a line near Fort Worth, Tex. This structure also serves as a support for the pipe line. The support is constructed of angle iron, bolted together. Removable screens are attached to each end of the support. Concrete foundations hold the support in place.

Skid-Mounted Spool for Catline

Care of the catline on a rotary rig prevents kinking of the rope and breaking of the fibers which generally result in the rope parting under a heavy load. A South Texas contractor made this spool which is mounted on a skid made from old sucker-rods, angle irons and 3-inch pipe. A lock and chain are provided to prevent anyone stealing the line when it is spooled for transportation.



Butane Tank on Skids for Rotary Rig

Drilling rigs in the Illinois fields use butane for fuel, to a large extent. This 1,000-gallon butane holder is mounted on steel skid so it can be quickly loaded or unloaded from trucks. Pressure gauges and regulator are enclosed in steel housings, eliminating any chance of breakage when the tank is in transit from one location to another.

New Absorptive Capacity Test for Absorption Oils

By D. B. JOHNS
Natural Gasoline Research Division,
Standard Oil Co. of California*

In the design and operation of plants for the extraction of gasoline from natural gas by the oil absorption process, the quantity and the quality of the oil circulated are factors of major importance. The purpose of this paper is to discuss the quality of absorption oil as reflected by absorptive capacity, and to present a new and simple test procedure for determining this property.

Kremser brought out in his paper, "Theoretical Analysis the Key to Absorption Plant Design," presented before the California Natural Gasoline Association in February, 1930, that absorption is dependent fundamentally upon the number of mols of oil circulated rather than upon the number of gallons. Gallons of oil may be converted to mols of oil by multiplying by the density to convert to a weight basis, and dividing by the average molecular weight of the oil. This is the D/M molal concentration factor used in Kremser's absorptive factor equation.

$$\text{Absorption factor} = A = 3.156\,(\frac{D}{M})\,\frac{GP}{p},$$

wherein

D = specific gravity of absorption oil
M = molecular weight of absorption oil
G = oil rate (gal. per 1,000 std. cu. ft. of gas)
P = absorber pressure, lb./sq. in. abs.
and p = vapor pressure of gasoline fraction in lb./sq. in. abs. at absorber temperature.

The D/M factor has become recognized as an index of oil characteristics. In practice it is desirable to keep this factor high by using the lowest boiling range oil consistent with permissible vaporization losses in the absorption and stripping systems. On a gravity basis this means the use of oils with a high A.P.I. gravity. Kremser pointed out that a 1° increase in the A.P.I. gravity will in general lower the molecular weight of an oil sufficiently to improve the absorption factor by approximately 2 per cent. In terms of plant operation this means that either the oil circulated may be cut 2 per cent, or advantage may be taken of the available increase in plant capacity.

The usual method of determining the molecular weight (M) of an absorption oil is the benzene freezing-point depression test which is described in the California Natural Gasoline Association Bulletin TS-343, "Tentative Procedure for Testing Lean Absorption Oil." In this procedure small amounts of the absorption oil are dissolved in benzene and the molecular weight is obtained from a measurement of the freezing-point depression. This method is credited with establishing reasonably true average molecular weights and therefore provides a means of determining the actual molal concentration or (D/M) ratio. However, the test requires extremely careful technique to obtain satisfactory results, the time requirement is excessive, and in general the method is unsuitable for determining the actual absorptive capacity of an oil.

This paper presents a quick and simple method of actually determining the relative absorptive capacity of an oil based on its ability to absorb butane gas. Data obtained by this method indicate that the absorptive capacity of an oil is not dependent solely upon the molal concentration factor (D/M), but involves an additional factor which is properly dependent upon the nature of the hydrocarbons of which the oil is composed.

New Absorptive Capacity Test

The detailed testing procedure and the derivation of formulae for calculating absorptive capacity values are presented in the Appendix.

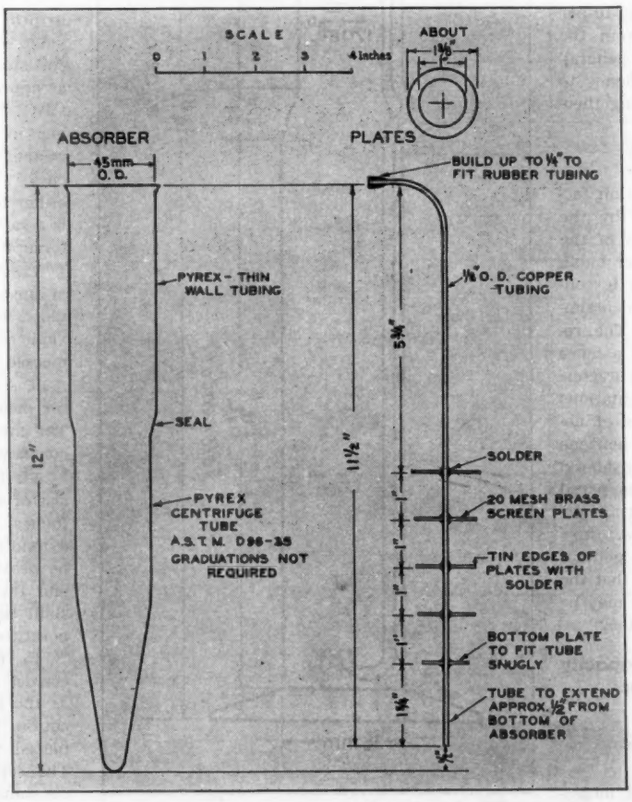
Describing the test briefly, a cross-cut of a liquid isobutane-normal butane stock is vaporized, cooled to 80° F., passed through a small glass flow rate indicator, saturated with water, scrubbed to remove entrained moisture, and finally passed through a measured quantity of absorption oil maintained at 80° F. until equilibrium is attained and the oil will absorb no more butane. The quantity of butane absorbed may be measured either by volume or weight increase.

These weight or volume pick-up values, while indicative of absorptive capacity, cannot be applied directly in computations involving other conditions of absorption. However, by employing equilibrium relations, we may compute D/Me values, where Me is the apparent molecular weight. It is recognized that in the plant process hydrocarbon fractions other than butane are also being absorbed and that conditions of absorption depart from those of the test. However, it is believed that application of determined D/Me values, established for a key component, such as butane, under constant test conditions should be representative of the relative capacities of different oils under conditions other than those defined by the test.

The method is simple in practice, and it is possible with a dual apparatus to conduct duplicate tests in less than two hours' time. The equipment has been in satisfactory service for about two years.

In connection with the development of the new index of absorptive capacity, tests were run on many oils, including special cuts and both new and used oils furnished by several companies.

Gravimetric vs. volumetric procedure.—In most cases independent determinations were made by both weight pick-up and volume pick-up methods. The volumetric test is by far the more convenient to conduct, but it involves an additional factor resulting from the shrinkage in volume which occurs when two different hydrocarbon fractions are mixed. This shrinkage factor is the value S in the formula for computing test results. The amount of shrinkage was found by test to be equivalent to 5 per cent of the volume of dissolved butanes for a specific case. This value was applied generally to volumetric test results. Reasonable agreement of these data with corresponding gravimetric results indicates that this procedure is satisfactory for



Gravimetric absorption tube specifications

*Delivered before fall meeting, California Gasoline Association, at Los Angeles.

routine purposes. For establishing more precise results, the gravimetric method is preferable.

Dry samples vs. water-saturated samples.—Tests were conducted on one oil using (1) dry butane vapor dehydrated oil, and (2) water-saturated vapor and water-saturated oil. Corrections for the partial pressure of water were made in the computation of results. The effect of water-saturation was indicated to be small, and since plant oils are usually saturated with water, it is considered best to standardize on a procedure requiring water-saturation of the butane vapor.

Agreement between duplicate tests.—In many cases repeat tests were run on the same sample. The extreme disagreement between duplicate tests was found to be of the order of 5 per cent, or the departure from an average value was only ±2.5 per cent. Moreover, many of the tests showing departures were obtained during the early stages of development of the method before the procedure was fully standardized. It is believed that close adherence to the final procedure as presented in this paper will yield duplicate results agreeing within 1 or 2 per cent.

Comparison of results with test by the conventional benzene freezing method.—In all cases "effective" *D/Me* values were found to be lower than corresponding *D/M* values based on the freezing-point method. Typical comparisons are illustrated in the table below.

Molal Concentration vs. Absorptive Capacity

Molal concentration (*D/M*) values determined by benzene freezing tests versus apparent or "effective" molal concentration values (*D/Me*) determined by butane absorption tests:

Sample	But. abs. method (*D/Me*)	Benz. freez. test (*D/M*)	Per cent departure from freez. test value
A	0.00440	0.00448	1.8
B	0.00430	0.00460	6.5
C	0.00425	0.00470	10.4

These results indicate that the absorptive capacity determined by a method analogous to actual absorber operation may be as much as 10 per cent lower than would be estimated from the conventional molecular weight test. In general, the more highly refined oils show a tendency to give *D/Me* values most closely approaching theoretical *D/M* results.

Conclusions

It is indicated that a molal concentration factor (*D/M*) such as may be determined by the benzene freezing test is not a true index of the absorptive capacity of an oil. On the other hand, the new butane absorptive capacity test is conducted in accordance with a procedure which simulates actual plant absorber operation. The results are believed, therefore, to represent a more reliable criterion for evaluating the characteristics of an oil as they influence computations of absorption factors and determinations of absorber efficiency. The conventional benzene freezing-point test procedure may be considered to supply "true" molecular weights, as compared with "effective" molecular weights which are derived from butane absorptive capacity tests.

Of importance also in considering the general adoption of the new method are the facts that the test is easy to conduct and the equipment may be readily assembled in a field testing laboratory.

Appendix A—Butane Absorptive Capacity and Molecular Weight Test for Absorption Oils

Procedure for Conducting Tests

Purpose

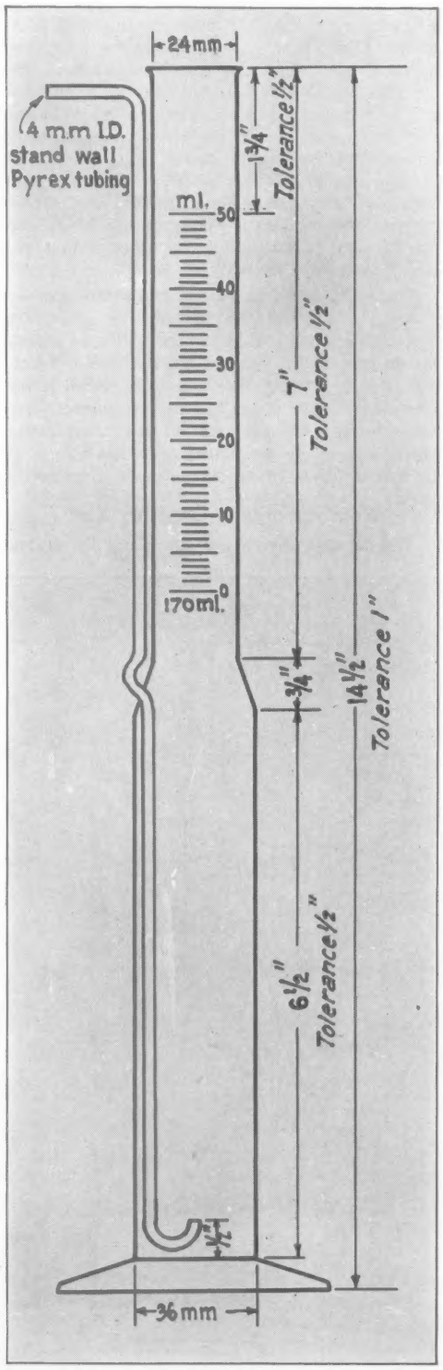
1. The butane absorptive capacity and molecular weight test is a simple and reliable method of determining the relative absorptive capacities of oil for hydrocarbon vapors. While equally applicable to new oils, this test is particularly adaptable to wet or dirty plant absorption oils because these oils can be tested without any treatment which might alter their properties.

2. The most general usage of this test will be for the determination of the proper oil circulation in absorber operation by application of Kremser's absorption equation:

$$\text{Absorption factor} = A = 3.156\left(\frac{D}{M}\right)\frac{GP}{p}$$

wherein

D = specific gravity of absorption oil
M = molecular weight of absorption oil
G = oil rate (gal. per 1,000 std. cu. ft. of gas)
P = absorber pressure, lb./sq. in. abs.
p = vapor pressure of gasoline fraction in lb./sq. in. abs. at absorber temperature



Volumetric absorption tube specifications

3. A liquid isobutane-normal butane stock is vaporized (cross-cut vaporization) and passed through a quantity of absorption oil measured and maintained at 80° F. and atmospheric pressure until equilibrium is attained and the oil will absorb no more butane. The determined weight or volume pick-up is a direct measure of the absorptive capacity of the oil with respect to the particular solute used, and it may be used to compute generalized absorptive capacity coefficient (*D/Me*) and effective molecular weight values (*Me*). Two procedures for determining the quantity of absorbed butanes are outlined below: (1) the volumetric method, and (2) the gravimetric method. Both methods have been found satisfactory.

Apparatus and Reagent

4. Specifications for absorption tubes for the volumetric and gravimetric test methods are shown in accompanying drawings.

5. The barometer shall be of the mercury column type and shall provide a measure of atmospheric pressure accurate to ±0.5 mm. Hg.

6. The balance, required for the gravimetric method only, shall be capable of weighing the absorption tube with an accuracy of ±0.05 gram.

7. A 50-ml. volumetric or transfer pipette shall be provided for measurement of the oil sample in the volumetric test procedure. The volume of the absorption oil delivered by the pipette at 80° F. shall be determined with an accuracy of ±0.05 ml. This calibration factor shall be established by weighing with a new absorption oil of about 35° to 40° A.P.I. gravity, and shall be applied in measuring test samples.

8. The butane evaporating coil shall consist of approximately 10 feet or more of one-fourth inch O.D. copper tubing wound to permit immersion in the bath described below (10).

9. A needle valve shall be provided for adjusting the flow of butane vapor to the required rates.

10. A water bath shall be provided for maintaining the butane evaporating coil (8) and rate control valve (9) at approximately the boiling point of water. The bath shall be of sufficient size to provide total immersion of both coil and rate valve. An electric immersion heater or a steam coil should be provided for maintaining the bath at approximately 212° F.

11. The pressure relief valve shall consist of a mercury seal which limits the pressure on the system to a maximum of 3 to 4 inches of mercury. The mercury pressure relief shall be vented either to a hood or outside of the building. This is a safety factor in case the flow of butane is interrupted by a plugged orifice or line.

12. A coil of approximately 10 feet or more of one-fourth inch O.D. copper tubing shall be provided to adjust the temperature of the butane vapor to 80° F. The coil shall be completely immersed in the constant temperature bath (16).

13. A small glass orifice meter shall be provided for measuring the rate of flow of butane vapor. The meter shall be completely immersed in the constant temperature bath (16).

14. The butane vapor water saturator shall consist of a glass bottle, approximately 3 by 3 by 8 inches. The gas inlet tube to the saturator shall extend nearly to the bottom of the bottle and shall be provided with a perforated bulb on its lower end for distribution of the gas. The saturator shall be entirely immersed in the constant temperature bath (16).

15. The butane vapor water separator shall consist of a bottle of about the same dimensions as the saturator, approximately half full of dry cotton, loosely packed. The cotton shall be replaced when it becomes saturated with water. The separator shall be totally immersed in the constant temperature bath (16).

16. The constant temperature water bath shall

be adequate in size to allow immersion of the temperature equalizing coil, orifice meter water saturator, separator and absorption tube. The bath shall be provided with a means of continuous agitation and its temperature shall be automatically maintained at 80° F. ±0.1° F. Close temperature control is a very important factor. An electric immersion heater, connected to an ether actuated mercury tube themoregulator, has been found satisfactory for controlling the temperature. The bath shall be of glass or shall be provided with a glass window to permit observation of the orifice meter. A cylindrical jar 12 inches in diameter and 18 inches high is sufficiently large for a double-unit set-up if the apparatus is compactly assembled.

17. Two thermometers shall be provided: (1) for measuring the temperature of the bath (16), and (2) for measuring the temperature of the liquid in the absorber. These thermometers shall be of the total immersion type, range 70° F. to 110° F., graduated in 1° F. divisions. A Saybolt viscosimeter thermometer conforms to these specifications.

18. The butane reagent shall consist of a mixture of iso and normal butanes containing approximately 10 to 30 per cent isobutane. It shall be substantially free from propane and/or pentane (±) fractions (less than 0.2 per cent). The composition of the reagent shall be established by fractional analysis and the results reported in vapor per cent.

Procedure

19. The butane vapor saturator (14) shall be filled approximately half full of water.

20. In assembling the equipment, it is essential that the liquid butane supply cylinder be inverted so that a cross-cut of the liquid will be withdrawn.

21. The temperature of the bath surrounding the butane evaporating coil (8) shall be raised to approximately 212° F. and maintained at that point. Exact control of this temperature is not important.

22. The constant temperature bath (16) shall be adjusted to 80.0° F. ±0.1° F. and maintained at that temperature. The bath shall be continuously agitated to insure a uniform temperature at all points.

23. The gravity of the oil sample shall be determined with a hydrometer (A.S.T.M. D 287-36) and the result recorded. This determination shall be conducted with sufficient care to insure an accurary of 0.1° A.P.I. Only certified hydrometers with scales graduated in 0.1° A.P.I. subdivisions shall be used.

24. The vapor pressure of the oil sample at 80° F. shall be determined (C.N.G.A. Procedure TS-343) and the result recorded.

25. The oil sample shall be adjusted to 80° F. and allowed to clarify by immersion in the constant temperature bath for a period of at least 15 minutes.

26. Valve *A* shall be gradually opened and the flow of butane vapor set at the specified rate by means of the orifice meter. The rate for the volumetric test shall be approximately 0.5 cubic feet per hour and for the gravimetric test approximately 0.25 cubic feet per hour. An extension handle is convenient for manipulating valve *A* which is immersed in the 212° F. bath.

27. One hundred and fifty millimeters of oil sample at 80° F. shall be pipetted into the previously cleaned and dried absorption tube. Water and/or emulsion should not be included in the sample withdrawn.

28. The absorption tube shall be attached to the discharge of the scrubber and butane vapor allowed to pass through the oil at the rate specified above (0.5 cubic feet per hour). A thermometer shall be placed in the absorber and temperature observations shall be made at frequent intervals.

29. The tube shall be disconnected, the thermometer removed, and the volume read at the end of a 45-minute period and at 15-minute intervals thereafter until consecutive readings show an increase of not less than 0.2 ml. It is essential that equilibrium shall be established at exactly 80° F. prior to making volume readings. A small loss in volume may be indicated after equilibrium has been reached. The maximum volume of 80° F. shall be recorded.

30. Barometric pressure shall be observed and recorded.

31. The gravimetric test procedure shall be identical with the volumetric method (27-30), with the following exceptions:

(*a*) The gravimetric absorption tube, containing screen plates shall be used rather than the volumetric tube.

(*b*) Approximately 75 bl. of water-saturated oil sample shall be weighed in the absorption tube with an accuracy of ±0.05 gram. All weighings shall be made with the screen plate and thermometer in position in the tube. Care shall be observed in weighing to dry the exterior surface of the tube.

(*c*) The quantity of absorbed butanes shall be observed by weighing at the end of a 45-minute period, and at 15-minute intervals thereafter until consecutive observations show an increase of not more than 0.1 gram. It is essential that equilibrium be established at 80° F. prior to making weighings. The maximum weight at 80° F. shall be recorded.

Calculation of Results

32. The effective molecular weight and the absorptive capacity (*D*/*Me*) may be computed from test results by means of the formulae and constants presented at the end of this paper.

APPENDIX B

Butane Absorptive Capacity and Molecular Weight Test for Absorption Oils

Derivation of formulas for computation of

FIGURE 3

BUTANE ABSORPTIVE CAPACITY TEST FOR ABSORPTION OILS

FORMULAE FOR COMPUTING EFFECTIVE MOLECULAR WEIGHT AND D/M_e RATIO

(1) VOLUMETRIC TEST

$$M_e = \frac{VD}{\Delta VD'} \cdot \frac{56P}{(K-P)} \qquad D/M_e = \frac{\Delta VD'}{V} \cdot \frac{(K-P)}{56P}$$

M_e = Effective molecular weight of oil.

$V = (V_o - C - Z)$ = Actual vol. of oil solvent at equilibrium (ml.@ 60°F.)

V_o = Volume of oil sample measured at 80°F. (ml.@ 80°F.)

C = Expansion factor to convert V_o to volume at 60°F. (see table).

Z = Volume of oil fraction vaporized. (ml.@ 60°F.)

$= \frac{\text{V.P.oil @ 80°F.}}{\text{Barom. Pressure}} \cdot \frac{\text{Cu.Ft.But.Vap.Passed} - \text{Cu.Ft.Absorbed}}{\text{Equiv.Volume Oil Fraction Vaporized}}$. (376S)

When L.O.V.P. = 0, Z = 0) (Approx. values of Z for routine tests shown in table below).

$\Delta V = (\Delta V_o \cdot C' + Z)0.998 \cdot S$ = Actual volume butane absorbed. (ml.@ 60°F.)

ΔV_o = Observed volume increase. (ml.@ 80°F.)

C' = Expansion factor to convert Vol. ΔV@80°F.to Vol.@60°F.(see table)

Z = Volume oil fraction vaporized (as above) (ml.@ 60°F.)

.998= Factor to correct for condensed water.

S = Factor to correct for shrinkage (For routine tests = 1.05).

D' = Density of absorbed butenes (60°F./60°F.) (see table).

D = Density of oil solvent (60°F./60°F.)

P = (Barom.press - V.P.H_2O @ 80°F. - V.P.oil @ 80°F.) (mm.Hg.)
(V.P. H_2O @ 80°F. = 26.0 mm.Hg.)

$$K = \frac{P_n + P_i\left(\frac{X_i}{X_n}\right)}{1 + \frac{X_i}{X_n}}$$ (see table)

P_n = V.P. normal butane at 80°F.
P_i = V.P. isobutane at 80°F.
X_n = Mols normal butane absorbed.
X_i = Mols isobutane absorbed.

(2) GRAVIMETRIC TEST

$$M_e = \frac{W}{\Delta W} \cdot \frac{56P}{(K-P)} \qquad D/M_e = \frac{\Delta W}{W} \cdot \frac{(K-P)}{56P}$$

M_e = Effective molecular weight of oil.

$W = (W_o - ZD_1)$ = Actual weight of oil sample at equilibrium (grams).

W_o = Measured weight of oil sample. (grams).

D_1 = Density of oil fraction vaporized (60°F./60°F.)
(For routine tests = 0.66).

Z = Volume of oil fraction vaporized. (ml.@60°F.)
(Same as in Volumetric Procedure).

$\Delta W = (\Delta W_o + ZD_1)0.999$ = Actual wt.of butanes absorbed (grams).

ΔW_o= Observed increase in weight. (grams).

D_1 = Density of oil fraction vaporized (60°F./60°F.)(Same as above).

Z = Volume oil fraction vaporized (as above) (ml.@60°F.)

.999= Factor to correct for condensed water.

D = Density of oil solvent (60°F./60°F.)

P = (Barom.press - V.P.H_2O @ 80°F. - V.P.oil @ 80°F.) (mm.Hg.)
(V.P. H_2O @ 80°F. = 26.0 mm.Hg.)

$$K = \frac{P_n + P_i\left(\frac{X_i}{X_n}\right)}{1 + \frac{X_i}{X_n}}$$ (Same as in Volumetric Procedure) (see table)

CONSTANTS FOR COMPUTING EFFECTIVE MOLECULAR WEIGHT AND D/M_e RATIO FROM TEST DATA

Test Temperature 80°F.

FACTORS DEPENDENT ON SOLUTE COMPOSITION

Isobutane Content Vapor %	K	D'	Isobutane Content Vapor %	K	D'	Isobutane Content Vapor %	K	D'	Isobutane Content Vapor %	K	D'
0	1929		16	2082		31	2150		46	2244	
1	1935		17	2035		32	2137		47	2252	
2	1941		18	2041		33	2145		48	2260	
3	1947	.584	19	2048	.568	34	2152	.579	49	2268	.576
4	1953		20	2054		35	2159		50	2276	
5	1959										
6	1965		21	2061		36	2167				
7	1971		22	2068		37	2174				
8	1977	.585	23	2074	.561	38	2181	.582			
9	1983		24	2081		39	2189				
10	1989		25	2088		40	2197				
11	1996		26	2095		41	2205		Expansion Factor for Butane Solute (Converting volume at 60°F. to vol. at 60°F.) = C' = 0.998.		
12	2002		27	2102		42	2212				
13	2009	.585	28	2109	.560	43	2220	.577			
14	2015		29	2116		44	2228				
15	2021		30	2123		45	2236				

FACTORS FOR SOLVENT

Vaporization Factor for Solvent (Z)

VOLUMETRIC TEST PROCEDURE				GRAVIMETRIC TEST PROCEDURE			
Tot.Vol.Butane Vapor Passed	0.50 Cu.Ft. Z'*	0.75 Cu.Ft. Z'*	1.0 Cu.Ft. Z'*	Tot.Vol.Butane Vapor Passed	0.50 Cu.Ft. Z'*	0.75 Cu.Ft. Z'*	1.0 Cu.Ft. Z'*
ΔV (ml.)	Ml/mm.Hg.V.P.	Ml/mm.Hg.V.P.	Ml/mm.Hg.V.P.	Δ W (Gm.)	Ml/mm.Hg.V.P.	Ml/mm.Hg.V.P.	Ml/mm.Hg.V.P.
20	.076	.127	.178	10	.078	.130	.181
25	.069	.120	.171	12	.075	.126	.177
30	.063	.114	.165	14	.070	.121	.172
35	.056	.107	.156	16	.066	.117	.168
40	.049	.100	.151	18	.061	.112	.163
45	.043	.094	.145	20	.057	.108	.159
				22	.052	.103	.154
				24	.047	.099	.150
				26	.043	.094	.145

*Z' values are expressed as ml./mm.Hg.V.P. of solvent at 80°F. In applying, Z in formulae = (Z') x mm.Hg. V.P. of solvent.

Expansion Factor for Solvent (C)

Gravity	(C)
30-33°API	0.998
34-34	0.998
35-43	0.991
44-50	0.990

affective molecular weight (*Me*) and absorptive capacity (*D/Me*).

Test Conditions

A mixture of isobutane and normal butane vapor, saturated with water vapor at *T*° F. and atmospheric pressure, is passed through a quantity of absorption oil, measured and maintained at *T*° F., until equilibrium is attained and the oil will absorb no more butane. The determined weight or volume pick-up may then be used to compute an absorption coefficient (*D/Me*) and/or an apparent molecular weight value as shown below. Since the purpose is to obtain molecular weights effective in the absorption process rather than true molecular weight values, no attempt has been made to evaluate deviations from ideal relations.

Nomenclature

Factors involving solute:

Xi = mols of isobutane absorbed at equilibrium
Xn = mols of *n*-butane absorbed at equilibrium
W = weight of butanes absorbed at equilibrium (grams)
V = volume of butanes absorbed at equilibrium (ml. at 60° F.)
D' = specific gravity of absorbed butanes (60° F./60° F.)
Pi = vapor pressure of isobutane at *T*° F. (mm. Hg) = 2,776.8 mm. at 80° F.
Pn = vapor pressure of *n*-butane at *T*° F. (mm. Hg) = 1,928.8 mm. at 80° F.
P = partial pressure of dissolved butanes at equilibrium (mm. Hg) = (barometric pressure — V.P. H_2O at *T*° F. — *LOVP* at *T*° F.) V.P. H_2O at 80° F. = 26 mm. Hg
58 = molecular weight of butanes

Factors involving solvent:

W = weight of sample used (grams)
V = volume of oil sample used (ml. at 60° F.)
D = specific gravity of oil (60° F./60° F.)
Me = effective molecular weight of oil

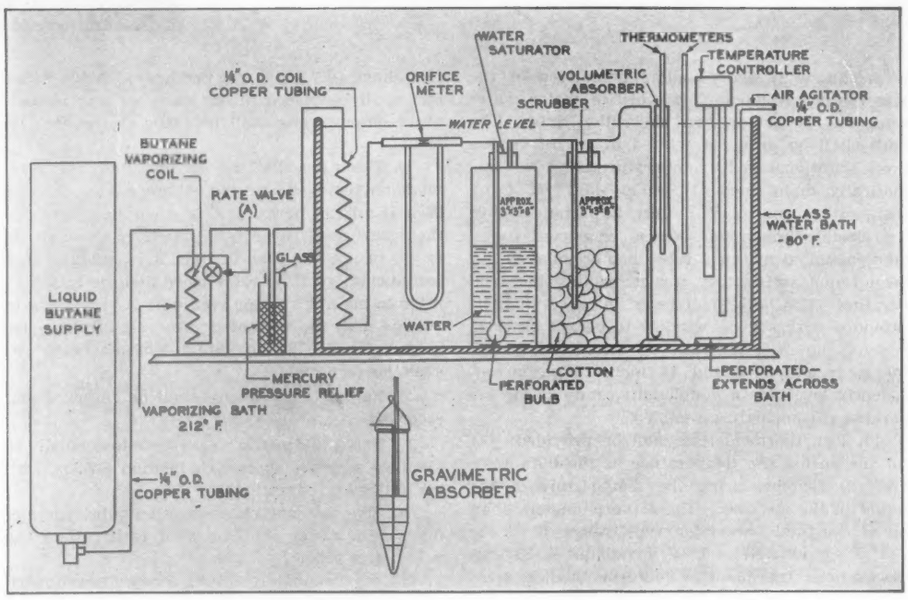


Diagram of apparatus for butane absorptive test

Formulas

Material balance:

$$Xi + Xn = W/58 \qquad (1)$$

Butane balance:

$$\frac{\text{Mol per cent isobutane in solute}}{\text{Mol per cent } n\text{-butane in solute}} = \frac{XiPi}{XnPn} \qquad (2)$$

Vapor-liquid equilibrium:

$$\frac{\frac{Xi}{\frac{W}{Me}+\frac{\Delta W}{58}}Pi + \frac{Xn}{\frac{W}{Me}+\frac{\Delta W}{58}}Pn = P}{} \qquad (3)$$

Combining and solving for *Me*:

$$Me = \frac{PW\left(Pi \pm \frac{Xi}{Xn}Pi\right)}{\frac{\Delta W}{58}\left[1 \pm \frac{Xi}{Xn}Pi\right)PiPn - P\left(Pi \pm \frac{Xi}{Xn}Pi\right)]} \qquad (4)$$

Simplifying:

$$Me = \frac{58\,PW}{\Delta W\left[\frac{Pn \pm Pi(Xi/Xn)}{1 \pm (Xi/Xn)} - P\right]} \qquad (5)$$

(Continued on Page 58)

3 are easier than 10!
THESE 3 EAGLE BEARING METALS
Meet Most Bearing Metal Requirements
They're made to Controlled Specifications
EAGLE DREADNAUGHT
For extreme speed and pressure conditions
EAGLE OUTLASTA
For medium speed and pressure conditions
EAGLE DURABLE
For low speed and pressure conditions

Eagle's *Controlled Specifications* guard against costly shutdowns

You're playing safe when you specify Eagle Bearing Metals. Bearing metal troubles are minimized... costly shutdowns are avoided. Only clean primary metals are used in Eagle Bearing Metals. They are scientifically alloyed under strict pyrometric control to lengthen their life. Eagle Bearing Metals contain no hard spots to cut and score the shaft. Uniform performance and trouble-free operation are assured.

Eagle Bearing Metals are sold through recognized distributors

EAGLE EP PICHER **THE EAGLE-PICHER LEAD COMPANY**
CHICAGO • JOPLIN • CINCINNATI

Production Economics of Vital Importance in Smackover

By GEORGE WEBER

New electrically-driven pumping units are being installed in this field where large quantities of water are handled

A combination of increasingly difficult lifting problems and declining crude prices constitutes a severe test to production economics in the Smackover field of South Arkansas.

This has affected operation plans for the past several years, but its effect has been accentuated recently by crude price cuts and new wage and hour requirements. The result is a condition which might be construed to show that further operations in the field are not economically feasible. A closer check on lifting costs, and the experience gained from producing on a small profit margin are sufficient to warrant continuation of operations. Experimental work now under way and further experiments to be tried will extend over a period of several years.

Smackover today represents a prime example of almost insurmountable lifting problems. The average well in the field produces over 95 per cent of water, and although the producing depths of 2,000 to 2,500 feet are relatively shallow in comparison with other areas, the attendant conditions of large fluid volumes, corrosion and long payout are not to be found in any other large field.

Practices in drilling and production during the flush history of the field are largely responsible for the severe operating conditions today. The field, discovered in 1922, was developed rapidly, and the prevalence of blowouts, the disregard for well records and straight holes, and the extremely high withdrawals during boom times have reduced Smackover, the sixth largest field in the world, to the basis of marginal production.

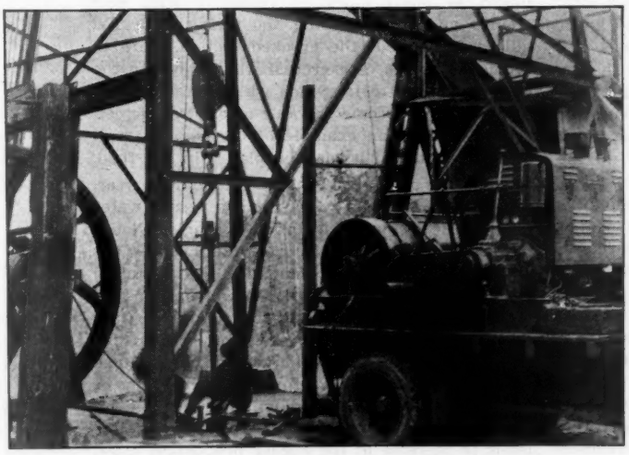
A recent survey of producing costs per barrel of oil lifted at Smackover shows the following breakdown, based on reports of individual companies in the field:

Operating costs	$.554
Overhead and administration	.095
Development and exploration	.010
Dry hole expenses and losses	.007
Lease rentals	.006
Undeveloped leases	.006
Depletion	.140
Depreciation	.038
Miscellaneous	.004
Total	$.860
Gas sales and miscellaneous	.001
Net cost	$.859

Note: Daily rate of production 18,200 bbls.

The overall net cost of 85.9 cents per barrel of crude exceeds the current quotation for crude delivered in the field. Continued operation on a narrow profit margin under this condition is possible due to certain factors which vary from the average in the cost survey. In the first place, the crude, and particularly the type adapted to manufacture of lubricants is considered a premium oil, despite the present price. Integrated companies which process their own production can afford to continue operating along established lines, provided costs are kept at a minimum.

In addition, the field offers an opportunity for small operators to acquire properties and to produce them with very little overhead, and in many cases without the need for outside labor. In some instances, pumpers are paid according to the crude lifted, a piece-work method which brings good results in certain cases. These practices tend to cut operating costs considerably, allowing a small profit to the producer. The opportunity for independent, experienced operators to enter this field is being accepted in many cases.



Fast pulling units are generally economical when large numbers of wells are serviced in production operation

The leveling off of the expected production decline curve for the field during the past few years, due to adoption of improved lifting methods, has reduced depletion charges considerably for some operators. Depreciation is generally low, due to the use of much antiquated equipment in the field.

Conditions at Smackover, however, in spite of the long payout periods which must be considered, do allow the adoption of modern pumping methods, and investment in a good quality of heavy lifting equipment on some leases. An extremely close study of individual well conditions and a strict accounting of costs is necessary, however, when improved equipment is to be installed. In this instance, the combined experience of production engineers and manufacturers is proving successful in applying the most modern lifting methods. Experience to be gained from adoption of new methods and the operation of the latest type of equipment will prove invaluable to both producer and manufacturer, since Smackover provides as severe a testing ground as can be found anywhere in the industry. Several large-scale experiments of this nature are at present under way in the field, but it will require several years in most cases to definitely prove their worth.

Due to the use of much outmoded and second-grade equipment, in lifting large volumes of fluids under corrosive conditions, operating costs are the major item in production economies at Smackover. The necessity for watching every possible cost angle in this division has been responsible for the maintenance of detailed records on each well.

On many wells it was formerly believed necessary to keep investment in new equipment to a minimum, and to keep the wells on production as much as possible by constant servicing. This led to an overbalancing of labor costs, with no improvement in sight. It has been proved, however, that a study of each individual well, followed by a program of installing the necessary amount of new equipment to keep it in good producing shape, will show a better payout than continued servicing. This opens the field for the adoption of much new equipment of recent development.

The keeping of detailed trouble reports on individual wells is common practice with several companies. This type of record is used as a basis for reports on production, cost estimates on new procedures and recommendations for changes in producing practices. In the record is tabulated the man hours required on each individual well, with specific reference to where the servicing was done. A typical trouble sheet for a well includes a breakdown as follows: Well head (stuffing box, polished rod, hanger); belt; engine; surface rods and jack; rods (kind, broken, unscrewed, where parted); tubing (kind, collar leak, split

Heavy rigs, comparable to units commonly installed for 6,000-foot production are used in newer installations in Smackover. For wells lifting more than 2,000 bbls. of water daily, these high-speed, long stroke units are necessary for handling production

joint, where parted); barrel (kind, cups or rings, plunger); ball and seat; cages, and valves.

Over a period of several months, a study of this report will show which wells required the most servicing, and which parts of equipment cost the company the most in servicing and down time. In most cases a localized trouble spot can be pointed out, and remedial measures undertaken to correct it and thus reduce operating costs on that individual well.

Since the majority of trouble in Smackover wells is traceable to failure of sucker-rods and tubing, records of such jobs are kept, with provision for comparison of the work over the field. Crooked holes and corrosive fluids account for much of the trouble, but other factors which can be more easily combated also show up the records. For example, it was revealed on one company's records, that failure of seven-eighths inch rods was causing more trouble than that of three-fourths inch rods. Increasing the length of the seven-eighths inch string in some wells and replacing three-fourths inch rods entirely by heavier rods eliminated some of the trouble. However, the heavier rods still showed more breaks. It was determined that, since most of the failures were due to fluid cutting in the boxes and pins, that the joints were not being made as tight in the larger sizes as in the three-fourths inch rods. Fourteen-inch rod wrenches were being used on both sizes. The use of 36-inch wrenches with snapping heads, and the practice of cleaning each box and pin and doping it with a zinc base compound resulted in greatly prolonged life of the seven-eighths inch rod strings.

The same principal was found successful in tubing string makeup. The 3-inch strings showed over twice the number of thread leaks as compared with 2½-inch strings, and the practice of inspecting, cleaning and applying filler to each tubing joint while on a servicing job, in addition to care in tightening 3-inch tubing joints with more force, cut servicing costs along that line.

Greater care in handling rods while out of the hole is also getting results in lower replacement costs. The hammering of tubing collars when breaking joints, a common practice on 3-inch strings, was stopped, and failures due to burned and stripped threads caused by collar flattening, were minimized.

The records also show where, in the string failures, the greatest trouble is being encountered. This gives the engineer an insight into the condition of the hole. In lengths of rod and tubing strings where trouble due to rod breaks and split tubing is localized, an unusually crooked section of hole is indicated. This localized trouble is eliminated in many cases by replacing with new strings and by equipping the string with rod guides throughout the crooked section. Care in replacing strings, is exercised when choosing the correct types of metal which will be in contact in the hole, to overcome galvanic or electrolytic corrosion. This is an example of the use to which specialized materials may be placed in the field.

Shock is a contributing factor to rod wear, particularly in wells which handle heavy water loads. The replacement of old, single-cylinder powers with newer electric, multicylinder or single-cylinder units is economically practical in some cases. The installation of power units which are capable of handling larger volumes of fluid without overloading has been largely responsible in leveling off the production decline curve. Some operators, however, have found that handling of increased volumes of fluid will increase the oil production for a time, but the percentage of water tends to increase at the higher production rates.

The use of rubber shock absorbers at the top of the rod strings was found necessary in the new pumping units in many cases. Despite the smoother operation with improved power units, it was found that the rigidity of the steel beams induced more shock than had the older and more flexible wooden rig fronts.

Corrosion trouble is being successfully met in most instances through use of low metalloid subsurface equipment. However, the necessity in many wells, for restricting new purchases to second grade materials, exposes operators to corrosion trouble, and the saving in new equipment is partially offset by a continuation of high servicing and replacement costs, and in loss of production due to much down time.

Treating of crude at Smackover gives little trouble at the present time. In most wells, advantage is taken of high fluid temperatures.

ABSORPTION OILS

(Continued from Page 56)

Let $$K = \frac{Pn \pm Pi(Xi/Xn)}{1 \pm (Xi/Xn)} \qquad (6)$$

Note.—It will be observed that K is a function of the composition of the solute. That is, for a definite test temperature K remains constant for any particular solute. Values of K at 80° F. for different butane solutes are presented in Figure 3.

Substituting K in Equation 5, gravimetric test results may be computed from the following:

$$Me = \frac{W}{\Delta W} \cdot \frac{58\,P}{K - P} \qquad D/Me = \frac{\Delta WD}{W} \cdot \frac{K - P}{58\,P} \qquad (7)$$

For the volumetric test, Equation 7 becomes:

$$Me = \frac{VD}{\Delta VD'} \cdot \frac{58\,P}{K - P} \qquad D/Me = \frac{\Delta VD'}{V} \cdot \frac{K - P}{58\,P} \qquad (8)$$

In applying the above formulas to the computation of molecular weights and absorptive capacities, values for the various factors not directly measured may be obtained from 80° F test results in the following manner:

$V = (Vc \cdot C - Z)$ = volume of oil solvent at equilibrium (ml. at 60° F.)

Vc = volume of oil solvent measured at 80° F. (ml.)

C = expansion factor to convert Vc to volume at 60° F.

Z = volume of oil fraction vaporized (ml. at 60° F.)

$$= \frac{\text{V.P. oil at 80° F.}}{\text{Barom. pressure}} \cdot \frac{\text{Cu. ft. but. vap. passed—cu. ft. abs.}}{\text{Equivalent volume oil vaporized (when V.P. oil} = 0,\ Z = 0)}$$

$\Delta V = (\Delta Vc \cdot C' \pm Z)0.998 \cdot S$ = actual volume of butanes absorbed (ml. at 60° F.)

ΔVc = observed volume increase (ml. at 80° F.)

C' = expansion factor to convert Vc to volume at 60° F.

Z = volume of oil fraction vaporized (as above)

*S = factor to correct for volumetric shrinkage (for routine tests = 1.05)

$W = (Wc - ZDl)$ = actual weight of oil sample at equilibrium (grams)

Wc = measured weight of oil sample (grams)

Dl = density of oil fraction vaporized (60° F./60° F.) (For routine tests = 0.66)

Z = volume of oil fraction vaporized (ml. at 60° F.) (Same as in volumetric procedure above)

$\Delta W = (\Delta Wo - ZDl)$ = actual weight of butanes absorbed (grams)

ΔWo = observed increase in weight (grams)

Dl = density of oil fraction vaporized (as above)

Z = volume of oil fraction vaporized (as above) (ml. at 60° F.)

$$K = \frac{Pn \pm Pi(Xi/Xn)}{1 \pm (Xi/Xn)}$$

$$Xi = \frac{\text{Mol per cent isobutane in solute}}{\text{Mol per cent } n\text{-butane in solute}} \cdot (Pn/Pi)\ (Xn)$$

$Xn = (1.0 - Xi)$

$Pi = 1{,}928.8$ mm. Hg at 80° F.

$Pn = 2{,}776.8$ mm. Hg at 80° F.

Figure 3 presents factors and data necessary for computation of 80° F. test results.

*The value of $S = 1.05$ was determined for the specific case of mixing liquefied butanes (10.7 per cent isobutane) with a new absorption oil of approximately 35° A.P.I. gravity at 80° F. in the proportions 1 : 4.7. Although the value of S will vary to some extent with different oils, it is believed that the determined value (1.05) is sufficiently representative for general application in routine tests.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Hollow Ball for Pump Standing Valve Suggested as Remedy for Trouble

I have been having some trouble pumping an oil well on one of our leases and a hollow ball for the standing valve has been suggested by way of remedy. This is something new to me. I never heard of a hollow ball being used in this way and none of the other men around here did either. Can you tell me how hollow steel balls are made and what advantages can be gained by using them?—E. E. G.

Designers of pumps of all kinds have always been faced with the problem of providing ports for the entrance and exit of the fluid that were in proportion to the displacement within the pump cylinder. In other words, the design of the cylinder and piston does not present great difficulties, but providing valves that will permit the entrance and discharge of the fluid or gas into the cylinder is an intricate engineering problem.

As a consequence valves and valve seats of many shapes and designs are used on pumps with only a few well-known types proving really practicable. The ball-and-seat valve is one of the most popular types and its principal difficulty in design is in the limited clearance effected between the ball and the seat and the weight of the ball if the size of the valve is increased.

With the ball-and-seat design of valve the seat is a hollow circle of metal into which the ball fits closely. As the fluid is admitted, the ball is lifted above the seat and falls back into place when the cylinder forming the body of the pump is filled.

To increase valve capacity it is necessary either to increase velocity of flow through the valve or enlarge the diameter of the valve seat and the ball. The volumes of spheres are to each other as the cubes of their diameters and as the specific gravity of the metal remains constant the weight of the balls increase rapidly with enlargement of the diameter. For instance, a steel ball 1½ inches in diameter weighs about one-half pound; a 2-inch ball about 1.18 pounds; a 2½-inch ball about 2.32 pounds, and a 3-inch ball weighs about 4 pounds.

This inherent property of metal and spheres and circles creates problems in design, for it requires greater force to lift the larger and heavier ball from its seat, or to lift any given size ball a greater height above the seat. As the ball falls back upon the seat the force of a hammer blow is delivered, and metal in both ball and seat may be worn or damaged. Where valves open and close many times a minute and are for use in pumps operating over long periods it is necessary to make replacements at fairly frequent intervals.

To avoid the pounding of the solid ball and reduce the effect of weight, hollow steel balls have been tried having wall thickness of from 8 to 10 per cent of the ball diameter, which greatly reduces the weight of the ball.

Making such hollow balls has presented many problems and a process has been developed by which two hemispheres are welded through the inside wall. To insure a perfectly homogeneous, well-worked material devoid of grain, the hemispheres are formed from bar stock. After forming and sizing, the two halves are fused together electrically and large sizes require a rather heavy current for the welding operation.

After fusing, the balls are ground and polished in regular ball-grinding machines. A tolerance on 3-inch balls and over is from .0002 to .0005, with about 90 per cent of the balls coming within .0001 inch clearance.

Testing balance is effected by floating the balls in a bath of mercury. The ball is allowed to come to rest with the heaviest part of its face down. The ball is then turned on the mercury bath through 90 degrees, bringing the heavy and light axes horizontal. When released, the ball must swing back to its position of equilibrium slowly to pass the test. If it swings back rapidly and bobs around in coming to rest again, then it is not sufficiently well balanced.

Balls are made of either carbon steel or stainless steel, and have Brinell hardness of 650 to 700 points. Stainless steel balls are composed of 12.5 per cent chromium and 12 per cent carbon. Oil quenched and tempered, these balls test about 400 Brinell and have an elastic limit of 158,000 and ultimate of 169,000 pounds per square inch.

There are other ways of increasing clearance areas in valves and permitting larger volumes of fluid to pass into and out of the pump cylinders in a given time, but the development of hollow steel balls is interesting from a mechanical viewpoint and their application has been quite general to certain pieces of equipment where weight of moving part in the valve is an essential detail.

Exhaust Steam Heating System

At the plant we have a 750 kw. G.E. turbine and numerous steam pumps exhausting into the exhaust system. This exhaust steam is used to heat buildings, boiler feed water, and various storage tanks, but the quantity of steam put into the exhaust system is more than is absolutely necessary. Now the problem is to determine the minimum amount of steam which would give the required heat. It would be impractical to attempt to condense the steam and collect the condensate in each line going to the individual buildings or tanks. Likewise, would installing flow meters to measure the steam drawn by each building or tank be out of the question since the steam is exceedingly wet and also it would require shutting down and opening the line.—J. M. C.

Thank you for your interesting letter, and I hope that I may be of some assistance. You will find in Kent's Mechanical Engineering Handbook an explanation of heating problems, and the following quotations are taken from same. It is hoped they will indicate the possibilities of studying the complete chapter on this subject, and it is hoped a copy of the handbook is available to you.

"The amount of heat, in B.t.u., to be supplied by the heating apparatus to a building to maintain the inside temperature above the outside, commonly termed heat losses, is:

"(*a*) The heat required to offset the heat transmission of the walls, ceiling or roof, and the floor. This loss of heat depends upon the type and materials of construction used and the temperature difference to be maintained between the inside and the outside of the building.

"(*b*) The heat required to warm the air entering the building from the outside, either by infiltration or purposely introduced for ventilation.

"(*c*) The heat supplied by persons, lights, machinery, and motors, which may be deducted from the sum of Items *a* and *b* to obtain net amount of heat to be supplied per hour by the heating system. The total heat to be supplied per hour is H = Item *a* + Item *b* + Item *c*, B.t.u."

There are numerous tables and formulas given to work out these problems in much detail, but there are some short rules, one of which is known as Carpenter's rule, and was proposed by Dr. R. C. Carpenter.

"It is not intended to be applied to buildings covered with corrugated sheet steel or metal lath or plaster walls, unless the wall constant is changed to suit the condition.

"A fair average value for the heat transmission of the usual well constructed building wall has been found to be approximately 0.25 B.t.u. per square foot and for glass approximately 1.0 B.t.u. per hour per degree temperature difference between the inside and outside.

"Usually it is practical to neglect all inside walls, floors, and ceilings and consider only the outside walls. Use a table to determine the estimated number of air changes per hour by infiltration."

The Carpenter rule is stated as follows:

$$H = (0.02nC + G + \tfrac{1}{4}W)\ (t - t_o)$$

Let

C = cubical contents of room, cu. ft.
n = number of air changes per hour
0.02 = B.t.u. to raise 1 cu. ft. of entering air 1° F.
W = net wall surface, sq. ft.
G = glass surface, sq. ft.
$t - t_o$ = temperature difference between inside and outside
H = total heat to be supplied per hour in B.t.u.

It is hoped this will aid you some in making estimate of heat requirements. As to the best way to regulate the amount of steam used that must be left to some one who can go into mechanical details at the refinery.

Correspondence Course in Natural Gas Service

I would like to take a natural gas course in servicing and maintenance. Could you give me the name of some reliable institution or college that would give courses by mail?—H. M. M.

I know of no correspondence course in natural gas measurement or servicing but there is a short course covering those branches given each spring at the University of Oklahoma, Norman, Okla.

It is therefore suggested you write to Prof. W. H. Carson, Engineering School, University of Oklahoma, Norman, Okla., and explain your desires to him. I am sure he can give you some good suggestions and if you could manage to attend this short course held in late April or in May it would probably provide you with what you desire.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Lining of Cracking Units For the Prevention of Corrosion

Has experience demonstrated a worth-while value for the lining of separators and towers of cracking units with a noncorrosive metal?—H. O. W.

A paper was presented by J. A. Jamison at the last A.P.I. meeting which contains the results of a field survey of corrosion problems of refinery equipment. A quotation from this paper appears to answer the question.

"Lining the interior of vessels with 11-13 chromium is slowly being adopted by an increasing number of plants. Its maximum use was found on California stocks, and it has been installed—but to a lesser degree—for crudes from West Texas, Michigan, and the Mid-Continent.

"The liner ordinarily used is approximately one-tenth inch thick (10-12 Birmingham wire gauge). Some of the first installed liners are still in service after 70,000 hours' operation (Case 1146, p. 34) on California stocks. Patching due to cracks between plug welds is occasionally necessary.

"In only one instance was a report made of corrosion in 11-13 chromium lining. In Case 117 (p. 29), handling West Texas stocks, the entire evaporator and bubble tower were lined. After 25,000 hours approximately 10 feet of the lining at the top of the bubble tower was attacked to the extent that further replug welding was almost impractical. The liner in the remainder of the bubble tower and the entire evaporator was unimpaired.

"Refiners who have installed linings in the field, either by plug or spot welding, admit that it can be done successfully, but that it is an arduous task. They also acknowledge the wisdom of lining the tower in the shops when the vessel is fabricated."

Reference: J. A. Jamison, Corrosion Protection of Refinery Equipment, Nineteenth Annual Meeting, American Petroleum Inst., Chicago, November 17, 1938.

Molecular Structure of Lube Oils and Physical Properties

Has any work been done showing the influence of molecular structure on the behavior of lubricating oils?—E. A. I.

The literature contains very little information relating to the molecular structure of mineral lubricating oils. There are some references to investigations of specific properties of certain oils. A recent article by L. A. Mikeska gives several conclusions based on a study of synthetic hydrocarbons including alkyl derivatives of benzene, naphthalene and dephenyl. Several of these follow.

Viscosity increases with complexity of ring structure. Viscosity index of a given aromatic or naphthenic hydrocarbon increases as the ratio of paraffinic to naphthenic or hydroaromatic carbon atoms is increased, provided the total length of the molecule is increased.

A long paraffinic side chain is more effective in increasing the viscosity index of a given hydrocarbon than a corresponding number of carbon atoms divided among two or more side chains. Straight chains are more potent in increasing the viscosity index than are branched chains.

Viscosity, density and refractive index are all affected by the allocation of the side chains in the nucleus. Viscosity index is only slightly affected by the allocation of the alephatic groups. The difference in viscosities at 100° F. of two-position isomers may be as much as 100 per cent. An olefinic linkage in the side chain invariably decreases the viscosity.

Long straight chains make for higher melting points than corresponding branched chains. Hydrocarbons of known molecular weight and nucleus, decrease in solidifying point with increase of side chains.

Reference: L. A. Mikeska, Chemical Structure of Lubricating Oils, Ind. Eng. Chem., 28, 970, 1936. This article includes a bibliography.

Test Data Indicating Volatility of Motor Gasoline

What is the best indication of starting pick-up and general driving performance of a gasoline? This has no reference to knocking but is intended to include evaporation or vaporization quality.—A. D. E.

There are several schemes that have been proposed for judging the volatility of gasoline. The distillation test furnishes the rate of evaporation from the initial to final boiling point. The temperature range from the initial boiling point to the 10 per cent point is considered to indicate the ease of starting, which when extended to the 20 per cent point should give an idea of the warming-up quality. The general performance is then indicated by the 50 and 90 per cent points, with heavy ends and other difficult to evaporate substances shown by the endpoint. A proper interpretation of the distillation test data requires expert knowledge and there are differences of opinion as to the meaning among the technologists.

One suggestion for a general index of volatility, especially the starting and warming-up qualities is the volatility index. This is a number obtained from the percentage evaporated at 284° F. minus 50. The U. S. Bureau of Mines some years ago made use of the average boiling point obtained from the temperatures of the distillation test. Some authorities recommend the 20 and 90 per cent temperatures for the purpose of grading gasolines for volatility.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Benzyl Alcohol

(Phenylcarbinol)

Use—Cosmetics and special preparations.

Form—Light yellowish liquid.

Formula—$C_6H_5.CH_2OH$.

Molecular weight—108.

Specific gravity—105.

Solubility—Water 4 per cent, alcohol 66 per cent, ether all proportions.

Melting point, °F.—5.

Boiling point, °F.—402.

LIMITATIONS

Specific gravity between 1.045 and 1.050.

Distillation, min., 98 per cent at 410° F.

Determination of Salt in Crude Oil and Statement of Results

Will you suggest a chemical method for the determination of salt in crude oil? What is the proper way in which to state the salt content of oil?—R. P. A.

Salt is not present in crude oil but in the water that often accompanies it. Such waters may contain from 25 to 30 per cent sodium chloride (salt).

The simplest analytical method for the estimation of salt in an oil and water mixture is to extract the water for determination of total chlorides and then calculate to sodium chloride. A slight error may be introduced by this scheme because other chlorides, such as magnesium and calcium chlorides are usually present.

A portion of the oil sample, 100 cc. is convenient, is slowly agitated with about 80 cc. warm distilled water in a separatory funnel. The agitation must not be vigorous because stable emulsions may form to interfere with the reaction. Slow swirling of the oil and water for several minutes will usually be enough to extract all of the salt. After standing for 10 to 20 minutes the water is withdrawn, made up to 100 cc. with distilled water then well mixed. Ten cc. of the water extract is placed in a casserole, a drop or two of nitric acid added, and titrated, in the presence of potassium chromate, with standard N/10 silver nitrate solution. One cc. of this solution is equivalent to 0.005846 gm. NaCl.

If bromides and iodides are also present in the water accompanying oil they will be precipitated with the chlorides. Under refining conditions these are objectionable, therefore no modification of the method need be made because bromides and iodides are included. When required these may be removed by first adding a slight excess of acetic acid, diluting with water, adding 0.5 gm. potassium persulfate, and heating the solution to liberate iodine. Heat and add persulfate until the solution is colorless. Liberate bromine by adding 2-3 cc. dilute sulfuric acid and more persulfate. Continue heating until all bromine has been expelled. Keep the volume at 50 to 60 cc. When all the bromine is off the solution is cooled and then titrated with silver nitrate as above described.

The analytical results are shown on the basis of the volume of oil extracted and then expressed in pounds per 1,000 bbls. of oil of 42 U. S. gallons each.

The table of conversion factors is convenient for stating the results in several different systems.

CONVERSION FACTORS FOR SALTS IN CRUDE OILS

Mg. per liter*	Grams per bbl.†	Lbs. per 1,000 bbls.†	Grains per U. S. gal.	Grains per B. I. gal.	Grams per metric ton‡
1.00	.159	.350	.0584	.0701	1.176
6.29	1.00	2.20	.367	.441	7.40
2.85	.453	1.00	.157	.200	3.36
17.1	2.72	6.00	1.00	1.20	20.1
14.3	2.27	5.00	.833	1.00	16.8
.85	.135	.298	.0499	.0596	1.00

*Approximately the same as "parts per million" (p.p.m.). †1 bbl. equals 42 U. S. gallons. ‡For oils of specific gravity 0.85 (35° A.P.I., 34.7° Be.).

Note: When it is desired to compute approximate salt content of oils from analyses of the brine, it is necessary to multiply these values by 1/100 of the total water content (expressed in per cent) of the oil.

References: Complete descriptions of analytical methods for chlorides will be found in all books on general quantitative analysis. C. H. M. Roberts and R. W. Stenzel, Electric Dehydrator, 8, No. 1, 1938.

FIELD OPERATIONS

Summarizing the Week's Developments

KANSAS—Three wildcats were completed, opening producing areas in Section 17-20-11w, Barton County; Section 7-15-13w, Russell County, and Section 22-15-13w, Russell County. Seven new wildcats were started. The Zenith field in Stafford County paced the state, with three producers completed and 11 new operations. A productive area was uncovered between the Coralena and Fairfield pools in Russell County, and the Schneider pool in that county was extended one-fourth mile south.

OKLAHOMA—South offset to the discovery well in the Hillsdale pool, northwestern Garfield County, made some head flows and was due for completion as the second Wilcox sand producer in the area. A third well, offsetting the discovery on the west, was nearing the pay sand. A new pay zone was found in the old Doyle area, Stephens County, when casing in an old well was perforated in an upper horizon.

TEXAS—In North Texas a pool was opened in Baylor County, 9 miles east of Seymour, by a 300-bbl. well and another in Montague County, a mile west of Nocona, by an estimated 1,000-bbl. well. The Hull-Silk pool in Archer County appears to have been extended 4 miles as a well in the T. Cecil Survey is showing substantial signs of oil. A wildcat on the Seadrift prospect in Calhoun County is rated as Southwest Texas' first discovery of the year. Thus far it is a small well at 7,832-53 feet. The Sun field in Starr County was extended a mile northwesterly. In the Texas coastal area the McCroskey (or Armour) field shows a new producing horizon at 7,191-96 feet, the discovery well starting at 175 bbls. per day. The West Ranch field in Jackson County was extended and likewise the Bammel gas field in Harris County. A north flank of the Boling dome in Wharton County is to have a deep test in search of the Frio formation. The Wasson and the Bennett pools in the West Texas area will be given outpost tests. One wildcat in Cochran County is showing oil and another is running structurally high.

LA-ARK-TEX—An important wildcat in Lafayette County, Arkansas, was cored from 6,920 to 7,179 feet, which is believed to be the top of the Smackover lime. It showed saturation only in the last 2 feet. It was to be given a drill stem test. A northwest edge test in Cotton Valley, Louisiana, flowed 315 bbls. in 14 hours through a small choke. The oil wells were added to the Shreveport field. In coastal Louisiana distillate production was opened in new sands in the Bateman Lake field in St. Mary Parish. Two oil wells were added to the University field in East Baton Rouge Parish. New pays were opened in the Grand Bay pool in Plaquemines Parish.

ILLINOIS—A new pool was opened in Section 14-3s-3w, Washington County. The well, not yet a completion, is rated at about 100 bbls. a day without a shot. Indications that the demand for oil in the basin fields has declined somewhat are seen in the severe drop in production in the face of 65 new oil wells completed in the past week.

CALIFORNIA—The discovery well in the new Tupman field in Section 32-30-25, was recompleted and is good for 1,760 bbls. Signal Oil Co. should soon commence its tidelands operations in the Long Beach sector of the Wilmington field.

Completions in All Fields

(Week Ending January 7, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	46	14	6	66	130	184
Ohio	2	13	3	18	36	38
Indiana	0	0	0	0	0	6
Kentucky	9	1	5	15	18	20
Illinois	65	16	1	82	166	25
Michigan	13	0	6	19	27	26
Kansas	12	0	3	15	31	74
Oklahoma	15	1	13	29	54	53
Texas:						
North Central Texas	32	1	8	41	59	57
West Texas	23	0	2	25	58	81
Texas Panhandle	5	2	1	8	15	30
East Texas	13	0	0	13	29	102
East Central Texas	3	2	1	6	10	18
East Texas Border	1	0	1	2	2	9
Gulf Coast Texas	10	0	8	18	39	47
Southwest Texas	22	1	9	32	62	60
Total Texas	109	6	30	145	274	404
North Louisiana	5	2	7	14	17	26
Gulf Coast Louisiana	12	0	4	16	21	22
Total Louisiana	17	2	11	30	38	48
Arkansas	6	0	2	8	11	12
Montana	1	0	0	1	3	4
Wyoming	0	0	0	0	1	11
Colorado	0	0	0	0	0	0
New Mexico	13	0	2	15	24	25
Utah	0	0	0	0	0	0
California	3	0	3	6	22	49
Total United States	311	53	85	449	835	979
Total previous week	295	25	66	386		
Week ending Jan. 8, 1938	379	55	88	522		

Outstanding Fields--Highlights

(Week Ending January 7, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	21	35	8	5,219	896	21,010
Wasson-Bennett	9	20	4	4,207	192	10,739
Ector County	11	31	9	9,591	1,404	42,496
Winkler County	7	13	3	754	1,737	36,149
Howard-Glasscock	3	16	1	1,464	1,033	15,148
East Texas	16	33	13	575	25,869	371,950
OKLAHOMA						
St. Louis	3	30	3	1,540	746	24,225
Oklahoma City	3	8	0	0	1,087	74,300
KANSAS						
Barton County	4	18	1	226	396	9,345
Stafford County	8	21	3	1,405	224	4,085
Rice County	2	15	3	466	1,226	24,280
Russell County	4	21	2	377	1,177	17,865
NEW MEXICO						
Lea County	8	68	13	1,996	1,992	91,170
LA-ARK-TEX						
Rodessa, La-Ark-Tex	2	9	3	840	1,056	64,950
Cotton Valley, La. (deep)	1	14	2	1,940	109	10,115
Schuler, Ark.	0	15	1	250	134	17,520
Jennings, La.	1	14	3	845	135	23,298
MICHIGAN						
Freeman-Redding	8	22	1	16	61	4,519
ILLINOIS						
Central Illinois	60	410	65	16,534	2,185	121,387
CALIFORNIA						
Wilmington	4	7	2	1,152	590	80,800
KENTUCKY						
Birk City	0	16	4	755	112	4,873

Illinois and Kentucky

By STAFF CORRESPONDENT

Blankenship Opens Pool in Central Washington County

SALEM, Ill., Jan. 9.—Eighty-two completed wells and 80 new operations were reported in the Illinois fields in the past week. The most important event of the week was the opening of a pool in Washington County where a score of dry holes have been drilled in an effort to discover oil. Washington County lies south of Clinton and west of Jefferson County, both of which produce oil. All the formations that produce in the basin fields are present in Washington County, and there seemed no reason why it should not be added to the producing areas of the state. G. H. Blankenship thought this way, and was fortunate in locating his test over a Benoist sand pay. The well, No. 1 Dennis, NE SW NE Section 14-3s-3w, was drilled to 1,239 feet; 7-inch casing was set at 1,227 feet, above Benoist sand topped at 1,228 feet. The well is rated good for 100 bbls. a day as it stands, but has not been shot as the casing had been cemented with only 30 sacks. Seismograph survey indicated it is on a large structure.

Sixty-five oil wells were completed during the week, with a total initial production of 16,534 bbls. per day. Some of the larger completions were permitted to flow only a short time. Potentially the initial production was about 20,000 bbls. a day. In the Salem pool, in Marion County, 21 oil wells with an actual initial production of 5,971 bbls., were recorded. There were no dry holes, but three wildcats in Marion County were dry and abandoned. One 60-bbl. well was completed in the Patoka pool. Marion County's record was therefore, 22 oil wells, 6,031 bbls. initial production, three dry holes, and no gas wells. In Fayette County, 33 oil wells with an initial production of 7,958 bbls., two dry holes and no gas wells, comprised the week's crop. Clay County had five oil wells, 1,767 bbls. initial production, one dry hole; Clinton County, two oil wells, 53 bbls. initial production, one dry hole; Jefferson County, one oil well, 115 bbls. initial output, two dry holes; Lawrence County, a dry hole and a 20,000,000 cu. ft. gas well; Wayne County, a 450-bbl. well and St. Clair a 160-bbl. well; Coles County had three dry holes; Champaign, Shelby and Randolph, one dry hole each.

New Wildcats Started

New wildcat operations reported in the past week were as follows:

In Gallatin County, Coates and others No. 1 Green, SW SW SW Section 16-9s-9e, derrick.

In Wayne County, Iroquois Oil & Gas Co. No. 1 Winzenberger, NE SW SE Section 7-3s-9e, derrick.

In Marion County, Chicago Syndicate No. 1 Williams, NW NE SE Section 36-1n-2e, shut down at 720 feet for repairs.

In Macon County, Decatur Oil & Gas Co. No. 1 Cook, NE NW SE Section 21-15n-2e, spudded and then shut down awaiting a rotary outfit.

In Montgomery County, Marhill Oil Co. No. 1 Doyle, SE NE SW Section 29-10n-4w, material on ground.

In Shelby County, Rex Development, Inc., No. 1 Oscar Odell, NE SE NW Section 20-14n-2e, spudded and shut down.

In Clinton County, Lindsey Brothers and British American Oil Co. No. 1 Boenhoff, NW NW NE Section 34-3n-4w, moving in material for cable tool test.

In Coles County, Kingwood Oil Co. No. 1 Twinens, SW NE SE Section 30-13n-8e, rigging up rotary.

Including the above eight wildcats, there were 80 new operations reported including locations, rigs and wells drilling, which indicates that the winter months are not seriously affecting the development of the fields of the state.

Wells Completed

Following were the wells completed in the past week, the initial production representing 24 hours output of the wells unless otherwise stated:

In Jefferson County, Transwestern Oil Co. No. 1 Casner, NW NW SW Section 9-2s-1e, was abandoned at 2,272 feet. It had McClosky lime top at 2,234 feet but only streaks of saturation in dolomite to the bottom. Casing was perforated at 2,144-56 feet and at 2,210-20 feet, and the well was given a 1,500-gallon acid treatment, but ended up with 2,200 feet of water in the hole, and a showing of oil. W. Price and others No. 2 Hamilton, SW NW NW Section 20-4s-3e, was abandoned at 3,150 feet. St. Louis limestone was topped at 2,931 feet, Benoist at 2,640 feet and the Chester series were dry. In the Dix pool, Carter Oil Co. No. 2 W. O. Allen, NW NW NE Section 9-1s-2e, had Bethel sand at 1,915-41 feet, shot with 15 quarts, pumped 115 bbls. of oil and 2 bbls. of water.

Illinois Fields

HIGHLIGHTS OF THE WEEK: G. H. Blankenship opened the first pool in Washington County in Section 14-3s-3w. The well is not yet a completion, but is rated at 100 bbls. per day, at least. Production in the basin pools took a decided drop last week in spite of many new oil wells, indicating a further decline in demand, which began two weeks ago.

Daily production of new pools, 121,397 bbls.; old pools, 15,397 bbls.; total, 136,784 bbls.

Completed oil wells, 65; operations, including locations, rigs and drilling wells, 527.

Lawrence County

Strine, Hawke and others No. 1 Howard Corrie, C E half SE NE Section 21-2n-13w of second meridian, was drilled to 2,913 feet without finding production and was shut down indefinitely. Kesl and others No. 1 Lagow and others, CSL N half SW NE Section 12-4n-11w, was a hole full of water at 1,142 feet, total depth, and was abandoned. H. A. Stiles No. 1 Laura Houghton, C S half NW SW Section 7-4n-10w, is a gas well good for 20,500,000 cu. ft. per day. First gas at 1,089 feet, then at 1,098-1,106 feet, in shale, and 1,106-07 feet, in sand.

Marion County

In the Centralia district, Marion County, A. C. Leathers No. 1 Pierson, NE SW SE Section 1-1n-1e, topped Ste. Genevieve limestone at 2,190 feet and drilled to 2,202 feet, where it was abandoned as dry. Benoist and Aux Vases were both barren. Phillips & Ashby No. 1 C. J. Wooters, NW cor. SE Section 16-1n-1e, was dry and abandoned at 1,910 feet. The Benoist ran low in this test, being approximately at 1,900 feet. Robert Garland's wildcat north of the Salem field was dry and abandoned at 2,351 feet. It was No. 1 Voght, SE SE NE Section 16-3n-2e. Fredonia lime was topped at 2,317 feet. There was a small showing in Benoist, topped at 2,111 feet.

In the Salem field, Texas Co. No. 13 Kalkbrenner, SW NW SE Section 5-1n-2e, McClosky lime was found at 1,950-57 feet, acidized with 2,000 gallons, pumped 280 bbls. Texas Co. No. 5 O. Johnson, NE SE SW Section 5-1n-2e, McClosky pay at 1,955-80 feet, at intervals, flowed 229 bbls. in three hours, estimated good for 1,500 bbls. a day. Texas Co. No. 3 Antioch Church, NW cor. SW SE Section 5-1n-2e, Benoist sand at 1,747-53 feet, flowed 200 bbls. Texas Co. No. 7 City of Centralia (reservoir property), NW cor. SW NW NW Section 4-1n-2e, Benoist at 1,763-76 feet, flowed 97 bbls. in three hours, estimated good for 675 bbls. a day.

In the north end of the Salem field, Magnolia Petroleum Co. No. 4 C. D. Phillips, NE SW NE Section 16-2n-2e, Bethel sand at 1,843-80 feet, flowed 168 bbls. Max Pray No. 1 A. M. Cole, SE SW SE Section 16-2n-2e, Bethel sand at 1,832-65 feet, pumped 179 bbls. of oil and 5 bbls. of water. Harry Blackstock No. 2 M. & I. R. R., SW NE NE Section 20-2n-2e, Benoist at 1,748-90 feet, pumped 195 bbls. Same operator's No. 4 M. & I. R. R., NE cor. NW SW NE Section 20-2n-2e, Benoist at 1,735-80 feet, pumped 240 bbls. Blackstock No. 5 M. & I. R. R., NW cor. SE SE SW Section 20-2n-2e, Benoist at 1,757-1,803 feet, pumped 160 bbls. Ohio Oil Co. No. 8 Matthew Young Heirs, SE NE SW Section 20-2n-2e, Benoist 1,750-87 feet, pumped 75 bbls. Shell Petroleum Corp. No. 8 Salem State Bank, NE SW SE Section 20-2n-2e, Bethel sand at 1,731-75 feet, shot with 15 quarts, flowed 720 bbls. Shell No. 9 Salem State Bank, SE NW SE Section 20-2n-2e, Benoist at 1,740-88 feet, shot with 15 quarts, flowed 716 bbls. Shell No. 5 Young Heirs, NW SE SE Section 20-2n-2e, Bethel at 1,728-79 feet, shot with 15 quarts, flowed 908 bbls. Magnolia Petroleum Co. No. 11 D. A. Shanafelt, SE NE NW Section 21-2n-2e, Benoist at 1,819-51 feet, pumped 120 bbls. Magnolia No. 27 J. H. Young, NW SE NW Section 28-2n-2e, Bethel at 1,790-1,824 feet, pumped 96 bbls. Magnolia No. 28 J. H. Young, NE SE NW Section 28-2n-2e, Bethel sand at 1,807-42 feet, swabbed 110 bbls. W. C. McBride, Inc., No. 3 N. L. Lee, NW NE SE Section 29-2n-2e, Benoist at 1,705-50 feet, pumped 275 bbls. Texas Co. No. 2 F. Lee, SW SE NE Section 29-2n-2e, Benoist at 1,737-71 feet, pumped 240 bbls. Texas Co. No. 8 McCollum, NE SE SE Section 29-2n-2e, Benoist at 1,728-75 feet, flowed 45 bbls. in three hours, estimated good for 300 bbls. a day. Roberts & Murphy No. 3 Dempsey, NE cor. SE SW Section 31-2n-2e, Benoist at 1,737-78 feet, shot with 60 quarts, flowed 240 bbls. Roberts & Murphy No. 4 Dempsey, SE SE SW Section 31-2n-2e, Benoist at 1,739-80 feet, flowed 100 bbls. Adams Oil & Gas Co. No. 3 Pugh, SE SE NE Section 29-4n-1e, in the Patoka field, Marion County, had Benoist at 1,416-43 feet, shot it with 15 quarts and it is a 60-bbl. pumper.

In Wayne County, Rockhill No. 1 Twist C, C E half SE SE Section 5-3s-7e (corrected location), McClosky pay at 3,347-68 feet, flowed 450 bbls.

In St. Clair County, Strickeen and others No. 1 Phillip Frye, NE NE SW Section 33-1n-10w, of third meridian, Trenton lime at 512 feet, saturation at 528-78 feet, acidized with 1,000 gallons, pumped 160 bbls.

In Randolph County, Ames Drilling Co. No. 1 Nicholson, SW NW NW Section 12-5s-9w, was drilled to 1,910 feet without finding production and was abandoned. What was considered to be St. Peter sand was topped at 1,880 feet. Benoist sand was topped at 200 feet. The hole was plugged back to 1,340 feet and tested, but only sulfur water resulted, supposed to have been coming from Trenton lime.

In Clay County, Roche & Voyles No. 1 Hutchins, SE NE SW Section 33-1s-7e, was dry and abandoned at 3,336 feet. There was a showing of oil in Roseclaire at 3,240-50 feet. Pure No. 1 Arthur Johnson, C E half SE SW Section 27-1n-7e, pay at 3,117-26 feet, flowed 410 bbls. Pure No. 3 C. H. Bullington, C W half NW NE Section 34-1n-7e, pay at 3,091-3,102 feet, flowed 300 bbls. of oil and 19 bbls. of salt water. A. P. Muhlbach No. 1 Anderson, SE cor. NW NW NW Section 2-1s-8e, McClosky at 3,088-91 feet, total depth

3,175 feet, estimated as a 50-bbl. well. Pure Oil Co. No. 1 R. H. Pierce, C W half NW SW Section 15-2n-8e, had pay and showings from 3,002 to 3,066 feet, acidized with 5,000 gallons, pumped and flowed 432 bbls. Pure No. 1 W. Travis, C E half NW NE Section 5-2n-8e, pays and showings from 2,973 to 3,088 feet, acidized with 5,000 gallons, flowed 575 bbls.

Fayette County

In the Louden pool in Fayette County, Jarvis Brothers No. 3 Homan B, NW NW NW Section 32-7n-3e, Weiler sand at 1,557-89 feet, pumped 150 bbls. In the St. James pool, Rosenthal and others No. 7 Washburn, SE SW NW Section 30-6n-3e, Weiler sand at 1,-611-26 feet, pumped 180 bbls. A wildcat, Hurricane Creek Oil Co. No. 1 Eckard, SE NW NE Section 15-6n-1w, was dry and abandoned at 1,755 feet. Mudge Oil Co. No. 2 Devore, NE cor. SE NE SE Section 1-7n-2e, Weiler at 1,458-98 feet, shot with 30 quarts, pumped 60 bbls. Carter Oil Co. No. 2 McClarin, SW SW NW Section 4-7n-3e, Louden pool, Bethel sand at 1,538-47 feet, shot with 10 quarts, flowed 204 bbls. through tubing, with some gas. Carlos Wagner No. 1 Durbin, NW NE SE Section 4-7n-3e, Weiler at 1,539-59 feet, shot with 10 quarts, and then with another 10 quarts, pumped 150 bbls. Carter No. 3 I. Hobbs, SW SW NE Section 6-7n-3e, Bethel sand at 1,505-17 feet, shot with 15 quarts, pumped 120 bbls. Carter No. 2 O. E. Goodson, NE SE NE Section 7-7n-3e, Bethel at 1,526-43 feet, shot with 30 quarts, flowed 216 bbls. Kingwood Oil Co. and Duncan No. 10 Yolton, NW NW SW Section 7-7n-3e, Weiler at 1,509-44 feet, shot with 20 quarts, flowed and pumped 163 bbls. in 22 hours.

Carter Oil Co. No. 1 Mabel Durban, SE SW NE Section 8-7n-3e, Bethel at 1,493-1,518 feet, pumped 72 bbls. Simon and others No. 1 Owens, SW cor. SE NW NW Section 8-7n-3e, Benoist sand at 1,502-29 feet, shot with 60 quarts, pumped 350 bbls. Carter No. 1 J. Sealock, 330 feet from north and 580 feet from east lines of NW quarter Section 19-7n-3e, Weiler at 1,533-74 feet, shot with 60 and then with 70 quarts, no results; Benoist sand at 1,630-38 feet, also dry. The well was abandoned. Dixie Oil Co. No. 5 Arnold B, C E half NE NW Section 19-7n-3e, Weiler at 1,531-78 feet, shot with 40 quarts, pumped 250 bbls. Carter Oil Co. No. 3 P. F. Coddington, NE SE SW Section 20-7n-3e, Weiler at 1,503-69 feet, shot with 60 quarts, swabbed 288 bbls. through casing. Williams and others No. 5 Smith, NW NW SE Section 20-7n-3e, Benoist at 1,620-61 feet, shot with 80 quarts, pumped 10 bbls. of oil and some water. Williams and others No. 6 Smith, NE NW SE Section 20-7n-3e, Weiler at 1,560-75 feet, shot with 10 quarts, pumped 45 bbls.

Carter No. 3 J. Feezel, Weiler at 1,522-63 feet, shot with 60 quarts, pumped 192 bbls. Jarvis Brothers No. 2 Homan C, NW NW SE Section 29-7n-3e, Weiler at 1,547-82 feet, pumped 150 bbls. Jarvis No. 3 Homan C, SW NW SE Section 29-7n-3e, Weiler at 1,562-85 feet, pumped 160 bbls. Jarvis Brothers No. 4 Homan C, NW SE SW Section 29-7n-3e, Weiler at 1,540-83 feet, total depth, but plugged back to 1,568 feet, pumped 160 bbls. Mabee Drilling Co. No. 4 Homan, SW NE SE Section 29-7n-3e, Weiler at 1,569-90 feet, pumped 140 bbls. Shell Petroleum Corp. No. 3 Fulton, NW SE NE Section 29-7n-3e, Weiler at 1,538-72 feet, shot with 15 quarts, swabbed 30 bbls. in five hours, an estimated 100-bbl. well. Stewart Oil Co. No. 1 Griffith, NW SW SW Section 29-7n-3e, Weiler sand at 1,-567-78 feet, shot with 40 quarts, pumped 233 bbls. in 16 hours. Whisenant and others No. 6 Smith, SW SW NE Section 30-7n-3e, Weiler at 1,561-1,606 feet, pumped 76 bbls. Texas Co. No. 5 Philbrook, NW cor. NE SE Section 31-7n-3e, Weiler at 1,547-54 feet, pumped 25 bbls. in four hours, estimated as a 150-bbl. well. Texas No. 1 Wooten, NW SE SW Section 31-7n-3e, Weiler at 1,524-42 feet, pumped 100 bbls. in 14 hours.

Carter Oil Co. No. 2 S. Rickett, NW NE NE Section 14-8n-3e, Weiler at 1,465-1,503 feet, shot with 60 quarts, flowed 1,080 bbls. of oil and 250,000 cu. ft. of gas. Carter No. 1 A. Fortner, SE NW SW Section 27-8n-3e, Weiler at 1,499-1,516 feet, shot with 20 quarts, pumped 151 bbls. Carter No. 3 Kay Birdie, SW NW SE Section 29-8n-3e, Benoist at 1,488-1,518 feet, shot with 60 quarts, flowed 932 bbls. Carter Oil Co. and Magnolia Petroleum Co. No. 1 Raymond, NW SE NE Section 29-8n-3e, Benoist at 1,468-92 feet, shot with 50 quarts, flowed 216 bbls. in six hours, estimated as a 740-bbl. well. Carter and Magnolia No. 2 George Raymond, SW SE NE Section 29-8n-3e, Benoist at 1,-480-1,512 feet, shot with 60 quarts, flowed 732 bbls. Jarvis Brothers No. 8 Sinclair, NW NE NW Section 29-8n-3e, Bethel sand at 1,585-1,605 feet, plugged back to 1,577 feet, pumped 125 bbls. of oil and about 5 bbls. of water. Merrick and Apperson No. 4 Botterfusch, NW cor. SW SW Section 29-8n-3e, Bethel at 1,507-27 feet, shot with 15 quarts, flowed 170 bbls. Carter Oil Co. No. 2 Lizzie Smith, NE SE SE Section 31-8n-3e, Bethel at 1,561-86 feet, shot with 40 quarts, flowed 796 bbls. Carter No. 3 O. McClain, NE SW SW Section 32-8n-3e, Benoist at 1,545-70 feet, shot with 50 quarts, flowed 212 bbls. Magnolia Petroleum Co. No. 5 Della Rhodes, NW NE NW Section 34-8n-3e, Benoist at 1,594-1,602 feet, swabbed 96 bbls. of oil with a showing of water.

In Shelby County, Kingwood Oil Co. No. 1 Vogel, SE NE NW Section 1-9n-4e, topped McClosky lime at 2,088 feet and was abandoned as dry at 2,129 feet.

In Champaign County, Barber and Selver No. 1 Julia Lindsey, C NW SE Section 20-20n-8e, topped Niagaran lime at 588 feet and was reported abandoned at 610 feet.

In Coles County, Ed Swearer and Crown Petroleum Co. No. 1 Sanders, SE SE NW Section 27-13n-8e, was abandoned at 2,110 feet with two strings of tools in the hole. No oil indications were reported.

In Clinton County, Adams Oil & Gas Co. No. 3 Huster B, SW SE NE Section 35-2n-1w, Stein sand at 1,202-24 feet, pumped 18 bbls. Newton and Ward No. 2 Trame, NE NE NW Section 8-1n-3w, pay at 997-1,005 feet, shot with 10 quarts, pumped 35 bbls. A. C. Thomas and others No. 1 Holthaus, SW NW SW Section 21-2n-3w, dry and abandoned at 1,355 feet. McClosky lime was topped at about 1,330 feet.

In Coles County, East Oakland Syndicate No. 1 Temple, SW cor. NE Section 36-14n-10e, was dry and abandoned at about 1,300 feet. Mabee Drilling Co. and others No. 1 Oakland Bank, NW NW NE Section 31-14n-14w, total depth 1,130 feet, reported abandoned.

Wildcat Progress

In Marion County, John C. Gill No. 1 J. A. Brown, SW SW SW Section 5-3n-3e, was at a total depth of 1,820 feet with drill pipe stuck. Hawley Oil Co. No. 1 Albert, NW cor. SW NE NW Section 3-1n-2e, set 3-inch pipe at 2,128 feet, total depth 2,133 feet. Gardenshire No. 1 R. Speaks, NE cor. SE Section 12-1n-1e, topped McClosky lime at 2,119 feet and was testing.

In Wayne County, Doctor More No. 1 More, SE NE NW Section 16-3s-5e, was drilling at 2,060 feet. New Penn Development Corp. No. 1 Wagner, NW SW NE Section 30-2s-9e, drilling at 2,296 feet; Carl Robinson No. 1 Felix, SW SW SE Section 27-2s-8e, drilling at 470 feet; F. R. Stocker No. 1 Blackburn, SE SW NE Section 8-2s-8e, Fredonia lime topped at 3,287 feet, drilling at 3,313 feet; H. H. Weinert No. 1 Ferguson, C W half NE SW Section 3-2s-7e, Ste. Genevieve lime topped at 3,100 feet, drilling at 3,150 feet; H. H. Weinert No. 1 Muhlbach, C S half NW SW Section 34-1s-7e, drilling at 2,990 feet; St. Louis Syndicate No. 1 McClain, NW SE SE Section 10-1s-6e, St. Louis lime at 3,247 feet, drill pipe twisted off, total depth 3,259 feet.

In Wabash County, Renwar Oil Co. No. 1 Holm, SE SE NW Section 15-3s-14w of second principal meridian, spudded.

In St. Clair County, Badger Oil Co. No. 1 Reichert, NE cor. NW NE Section 3-1s-10w of third principal meridian, drilling below 625 feet.

In Jefferson County, Kingwood Oil Co. No. 1 Wayer, SW SE NW Section 9-2s-2e, Ste. Genevieve lime at 2,308 feet, coring at 2,428 feet; Magnolia Petroleum Co. No. 1 Mary Ruthowski, SE cor. Section 21-2s-1e,

Bethel Sand Promises to Pay Off in Birk City District

OWENSBORO, Ky., Jan. 9.—A 100-bbl. well from McClosky lime in the Utica district in Daviess County; two fair sized wells and two McClosky lime dry holes in the Birk City field, and a 100-bbl. well in the McClosky pay in the Cane Run School district were the principal features of a rather dull week in West Kentucky.

James C. Ellis No. 2 K. A. Jones, in the Birk City pool, has indications of production in the Bethel sand around 1,700 feet. The well is about a quarter-mile from the Aetna Oil Service well on the Pitt farm, which two weeks ago flowed oil from the Bethel, but which has not been completed because a shot split the casing and later a drill stem was lost in the hole.

Following is the record for completed work and new operations in the various counties of the district:

Butler County, Silver City district: Fred Phillips and Porter Evans No. 1 J. D. Brown, dry hole through Jones sand, total depth 631 feet; J. C. Miller, trustee, No. 5 Martha Hawes, 20-bbl. well in Jones sand, total depth 514 feet. Mount Zion School district: J. F. Breslin and others No. 4 Porter Harper, 5-bbl. well in Jett sand, total depth 147 feet; No. 5 drilling at 50 feet. South Hill district: W. E. Allison and others No. 1 Moore & Pendley, moving in.

Daviess County, Utica district: O. D. Vickers and others No. 2 Ed Bennett, estimated 100-bbl. well in McClosky lime, total depth 1,666 feet. Habit district: Henry & Ross No. 1 Paul Kemp, dry hole, total depth 1,585 feet. Birk City district: Major Oil Co. No. 1 Federal Land Bank, dry hole, total depth 1,906 feet; Jess Ashby and others No. 4 Mrs. C. E. Jagoe, estimated at 150 bbls. per day, total depth 1,880 feet; Snowden & McSweeney No. 9 Mrs. L. Taylor, estimated at 100 bbls. per day, total depth 1,897 feet; Major Oil Co. No. 3 Mirilda Wahl, dry hole, total depth 1,910 feet, a correction. Cane Run School district: Cane Run Petroleum Co. No. 9 R. E. Jackson, swabbed 100 bbls. in the first five hours; acidized with 1,000 gallons; McClosky saturation at 1,159-70 feet; Mecca Oil Co. No. 10 Zula Johnson, moving in; Rex Pyramid Oil Co. No. 3 Jesse Litsey, moving in.

Hancock County, Patesville district: Henry & Ross No. 3 E. F. Boling, moving in.

Henderson County, Birk City district: W. E. Hupp and others No. 4 O. L. Boswell, drilling at 1,000 feet.

McLean County, Livermore district: W. E. Hupp and others No. 28 Hackett Brothers, Jett sand key well, drilled to Bethel sand, estimated at 50 bbls. per day, total depth 1,450 feet; J. C. Ellis No. 2 Laura Porter, moving in. Nuchols district: Fred Phillips and others No. 2 Charles Montgomery, location; Cleopatra district: Cleopatra Oil Co. No. 1 R. T. Pinkston, dry hole, total depth 500 feet.

Ohio County, Narrows district: Murphy and H. Vickers No. 4 Arvis Wedding, spudding in. Oklahoma district: Henry Scholl and others No. 6 Oscar Wester field, dry hole, total depth 725 feet.

EASTERN KENTUCKY

ASHLAND, Ky., Jan. 9.—One gas well and two oil well completions mark the report of field operations in eastern Kentucky this week.

Hall & Ogle report the completion of No. 1, on the High Reed land at Pilot in the South Fork district of Powell County. It started at 5 bbls. per day.

Joe T. Brown, treasurer, completed No. 5 on Lowery Heirs farm at Mount Springs, South Fork district of Powell County. The well is making 5 bbls. of oil daily.

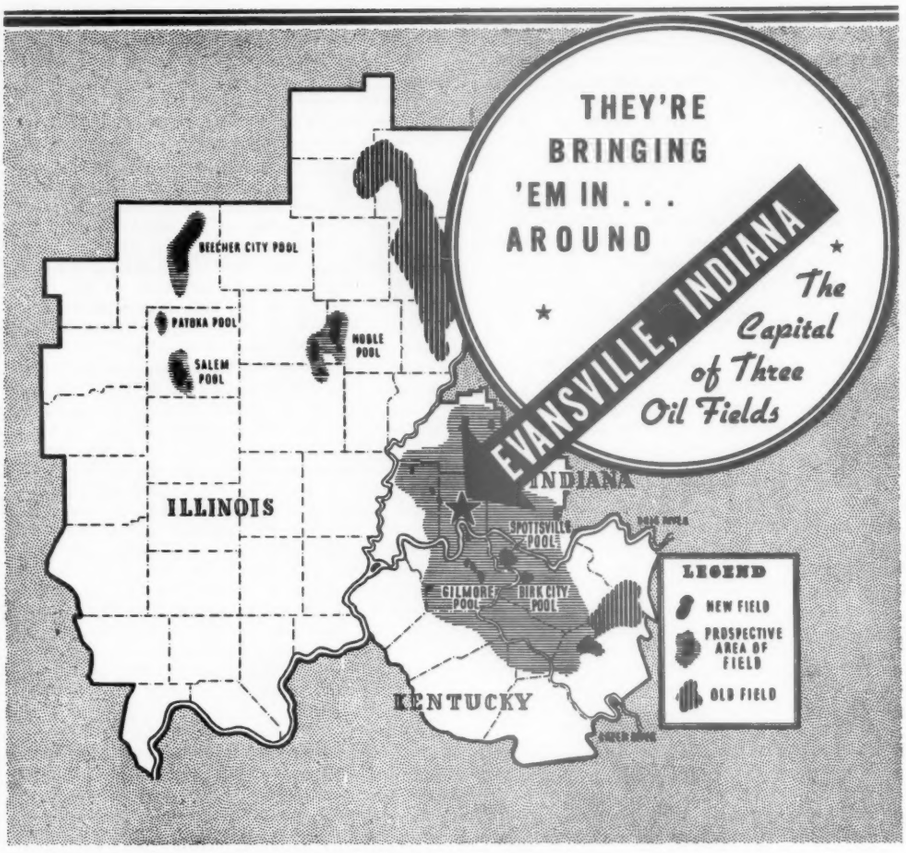
The Kentucky-West Virginia Gas Co. completed No. 578, on the Sherwood Osborne land on Toms Creek in Floyd County. The well reached a total depth of 2,754 feet, in slate, made 353,000 cu. ft. of gas daily, in a 40-hour test.

In Martin County, the Kentucky-West Virginia Gas Co. is down 2,265 feet in shale in No. 574 John and Benjamin Sellards on Coldwater Fork. The same firm is down 1,730 feet in slate in No. 5249, in same vicinity.

In Powell County, Eli Sparks and Less Weathers are drilling at 400 feet in No. 1 Park Vanderpool at Pilot.

In Knott County, Inland Gas Corp. completed No. 203, Curtis Pigman land, on Right Fork of Troublesome Creek at a total depth of 3,172 feet. The well has been shot but production figures were not available.

Districts in Magoffin, Lawrence, Lee, and Elliott report no operations or conditions unchanged from last week.



YOU'LL GET *Action* IN THIS IDEAL "HEADQUARTERS CITY"

★ ***Action*** **in developments! Petroleum engineers have agreed that the territory around Evansville holds the biggest promise for expansion in the new oil-producing area comprising Southern Illinois, Western Kentucky and Southwestern Indiana.** ***That's a prediction now borne out by present operations!*** **Just last month, within a stone's throw of Evansville, a new gusher with an estimated production of 1,000 barrels a day was brought in. Oil men who gauged it call it the "proof of a vast unexplored territory." Day after day, scores of other new producing wells are being drilled, making Evansville the heart of a brand new oil-proven territory, rich with opportunity.**

★ ***Action*** **in operations! You get it in Evansville through the alert co-operation of its modern facilities — "service plus" proved by the experience of a score of major oil companies who have recently moved to Evansville. When** ***you're*** **ready to come into these new fields of opportunity — come to Evansville! It's your logical headquarters — because it's set up to serve your requirements!**

Write, wire or phone for detailed information!

EVANSVILLE CHAMBER OF COMMERCE
Evansville, Indiana

WITTE DIESELECTRIC PLANTS for Dependability

Make your own electricity for light and power at less than a cent a K.W.H. from non-explosive, cheap fuel. With the Witte, world's most dependable small Diesel plant, you pay only for current you produce and use.

Finger-Tip Control - - - Remote or at Engine

Just push a button, the Witte will do the rest. Almost any employee can operate this sturdy Diesel that requires virtually no supervision. Don't just buy a Diesel—buy one that is dependable and reliable—a WITTE. Write for details.

1981 Oakland Avenue, Kansas City, Missouri

$825 f. o. b. Kansas City, Missouri and up

1500 - 2500 - 5000 watts

WITTE ENGINE WORKS **See Your Supply Dealer**

McClosky at 2,253-60 feet, saturated, total depth 2,273 feet, set 7-inch pipe at 2,173 feet.

In Hamilton County, Helmerich & Payne No. 1 Hamilton County Land Bank, SE SE SE Section 6-4s-7e, drilling at 2,298 feet.

In Edwards County, Owens & Kinney No. 1 Hansen, NW NW SE Section 20-1n-14w of second principal meridian, drilling at 3,040 feet.

In Clay County, Richard Duncan No. 1 Liggett, SE NW SE Section 17-5n-5e, set 7-inch at 2,319 feet, tested salt water. Will plug back. Benoist sand was topped at 2,313 feet. F. J. Searight No. 1 Wilson, SW SW NW Section 6-5n-5e, rigging up machine.

In Shelby County, Fisher and others No. 1 Brombach, SE NE NW Section 25-12n-2e, had derrick up. Independent Refining & Producing Co. No. 1 Hackenburg, SE SW SW Section 20-12n-2e, Benoist at 1,465 feet, Aux Vases at 1,539 feet, underreaming 6-inch casing to drill ahead.

In Macoupin County, W. G. Dillon and others No. 1 Keefe, SE SE NE Section 32-10n-9w, drilling at 675 feet.

In Knox County, O. H. Hammer No. 1 Bragg, NW cor. SE SE SE Section 9-11n-2e of fourth principal meridian, drilling at 210 feet.

In Hancock County, Groves and Cook No. 1 Talbot, NW cor. SW Section 15-4n-5w of fourth principal meridian, drilling at 410 feet.

In Fulton County, Ketcherside and Fisher No. 1 Frederick, NE cor. Section 10-7n-1e of fourth principal meridian, drilling at 405 feet.

In Fayette County, Union Products No. 1 Mahon, NE NE SE Section 8-5n-3e, drilling at 1,325 feet; George Parker No. 1 Mary Lange, SW SW SW Section 28-5n-2e, total depth 1,500 feet, with drill pipe stuck; R. C. Mayes and others No. 1 Defend, SE NW NW Section 26-4n-1w, material on ground.

In Effingham County, H. Gussman No. 1 Wagner, NE NE SE Section 13-7n-5e, drilling at 2,585 feet. McClosky lime topped at 2,456 feet, dry, but with an odor of gas.

In Edgar County, A. M. Myers No. 1 Brinkerhoff, C SE SE Section 26-13n-13w of second principal meridian, drilling at 1,650 feet.

In Coles County, Texas Co. No. 1 Tracy, C S half NW SE Section 22-13n-7e, coring ahead, total depth 1,754 feet. R. F. Whelan No. 1 Wilford Michael, SW SW NW Section 1-11n-7e, shot with 80 quarts at 1,-873-1,905 feet.

In Champaign County, Sidney Oil & Gas Co. No. 1 Wendling, SW cor. NE NE SE Section 10-17n-10e, drilling below 525 feet.

In Bond County, Devonian Oil Co. No. 1 Ambuehl, NE SW NW Section 22-6n-4w, drilling at 1,125 feet. Reisig and Quisenberry No. 1 Wildeman, 600 feet from north and 600 feet from east lines of Section 3-6n-3w, spudded. Joseph Kesl, Jr., No. 1 White, SW SE NW Section 17-5n-4w, rigging up machine. Joseph Kesl and others No. 1 Meyer, NW NE NW Section 13-4n-2w, drilling at 600 feet.

CENTRAL OHIO

FINDLAY, Ohio, Jan. 9.—Central Ohio operators came through the week with a good producing well-dry hole ratio, completing 12 gas wells and only one dry hole. Muskingum County yielded a Clinton sand gasser with a 5,500,000 cu. ft. open flow.

In Athens County, Lodi Township, A. D. Townsend No. 1 E. A. Niggemeyer, Fraction 5, is a small second Berea gas well, total depth 1,726 feet.

In Guernsey County, Washington Township, Ohio Fuel Gas Co. No. 3 John H. Gray, Section 13, had an open flow of 475,000 cu. ft. from the Berea at 1,302 feet.

In Knox County, Jackson Township, Pure Oil Co. No. 1 Mary McCamment, Section 11, previously reported as making 8 bbls. of oil, naturally, from the Clinton sand at 3,160 feet, has been shot and made 90 bbls. the first 24 hours. In Howard Township, Upham Gas Co. No. 2 Frank Magers, Lot 17, second quarter, is good for 750,000 cu. ft. of gas, open flow, from Clinton sand at 2,716-31 feet. In Pike Township, Upham Gas Co. No. 1 Sarah Wright, Section 24, had 170,000 cu. ft. of gas. open flow, at 2,580-86 feet.

In Licking County, Mary Ann Township, William Stricker No. 3 Clinton A. Wright, Lot 21, first quarter, is a small Berea sand gas well at 719-26 feet.

In Monroe County, Bethel Township, Beardmore Oil & Gas Co. No. 2 J. A. Roach, Section 35, found Berea sand dry at 1,841 feet; filled back to 1,428 feet and made it into a small Injun sand gas well. In Wayne

(Continued on Page 88)

Kansas Developments

By
DAL DALRYMPLE

Find New Productive Area in Russell; Schneider Extended

Field activity in Kansas was off to a good start in the first seven days of 1939 with three discovery wells completed, a new producing area uncovered in Russell County, and several pools extended. The Zenith field in Stafford County set the pace, with three producers completed and 11 new operations started.

Earle F. Wakefield and others No. 1 Meharg, SE cor. Section 16-15-13w, wildcat midway between the Coralena and Fairfield pools in Russell County, apparently has opened a new Lansing-Kansas City lime productive area. It topped the lime at 3,066 feet, was bottomed at 3,112 feet, and 40.2-gravity oil rose 2,000 feet in the hole in 3½ hours. Seven-inch casing was set on top of the pay and the well was to be acidized and tested after drilling the plug. It probably will be listed as the first strike of 1939, the wildcat discovery wells completed the past week having been listed as strikes in 1938.

The Schneider pool in Russell County was extended one-fourth mile south at Mid-Continent Petroleum Corp. No. 1 Ochs, NW SW NE Section 35-15-14w. It swabbed 482 bbls. of oil in eight hours from Arbuckle lime at 3,331-40 feet, total depth.

A second producer in the Prusa pool, Barton County, was expected to be tested this week. It was Sinclair Prairie Oil Co. No. 1 Seyfert, NE cor. Section 29-16-11w, south offset to the discovery well, which was completed late in 1938. Arbuckle lime was found in the Seyfert test at 3,334 feet, 7-inch casing was set at 3,341 feet and total depth was 3,345 feet. Oil was showing in cores.

Among the Wildcats

A new producing area was opened in southeastern Barton County at Virginia Drilling Co., Murphy & Harris No. 1 Clawson, SW SW NW Section 17-20-11w, a completion of the past week. It found Arbuckle lime at 3,285-99 feet, total depth, pumped 226 bbls. of 41-gravity oil in five hours and made potential of 679 bbls. Lansing lime was topped at 3,054 feet. The discovery is 2½ miles south of the town of Ellinwood and is 1 mile west of the Ellinwood pool.

W. I. Southern, Inc., opened the Fairfield area at No. 1 Sellens. SW cor. Section 22-15-13w, Russell County. Although classed as a discovery in December, 1938, it was not reported completed until the past week. It had Lansing lime at 3,048-3,170 feet, was bottomed at 3,337 feet and plugged back to 3,170 feet. It pumped 45 bbls. of oil and 70 bbls. of water in eight hours and made potential of 153 bbls. of oil, with 30 per cent water. It is about three-fourths of a mile north of the Eichman area.

Yankey & Stearns No. 1 Krug, NW SE NW Section 7-15-13w, extended the Coralena pool in southern Russell County three-fourths of a mile northwestward. It found Lansing lime at 3,030-3,244 feet, had Arbuckle lime at 3,310-29 feet, total depth, and was plugged back to 3,244 feet for completion. After acid treatment, it pumped 224 bbls. of oil in eight hours and made potential of 795 bbls. daily, with a small percentage of water.

The wildcat exploration of 1939 got off to a good start with seven new outposts being reported the past week.

Continental Oil Co. No. 1 Drumm, SE SE NE Section 16-9-21w, nearly 1 mile west of the Morel pool in Graham County, was a rotary rig.

Sinclair Prairie Oil Co. No. 1 Pichner, NE SE SE Section 10-16-11w, southeast of the Davidson pool in Barton County, was drilling.

Phillips Petroleum Co. No. 1 Esau, SE NW NE Section 7-21-4w, west of the Inman area in southwestern McPherson County, was moving in material.

Vickers Petroleum Co. No. 1 Sutphin, SW SE SW Section 30-22-4e, wildcat in Marion County, was building rig. It is southwest of the Peabody area and northwest of the Elbing pool.

Roby and others No. 1 Meairs, SW SW NW Section 21-25-14, western Woodson County, had spudded.

Phillips Petroleum Co. No. 1 Esch, SE SE NE Section 19-33-6, about 6 miles west of the Dexter area in Cowley County, was rigging up rotary.

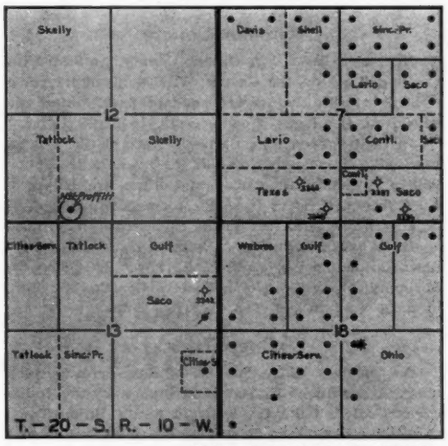
Fred Smith No. 1 Werth, SW SW SE Section 33-15-18w, wildcat in Ellis County, was a rotary rig. It is southwest of the Madden pool.

Stafford County

The Zenith field in Stafford County was the pacesetter in Kansas the past week with three producers complete and 11 new tests reported.

E. H. Moore No. 1 Johnson, SW SW NE Section 13-24-11w, flowed 276 bbls. of oil in four hours and was rated potentially at 3,070 bbls. of oil daily. It topped Lansing lime at 3,375 feet, had Misener sand at 3,778-87 feet and Viola lime at 3,802-06 feet, total depth.

Stanolind Oil & Gas Co. No. 2 Hartnett, SE SW NW Section 13-24-11w, found Misener sand at 3,769-90



Midcontinent Map Co., Wichita

J. H. Tatlock, Wichita operator, opened a new producing area 1 mile west of the Chase pool in Rice County at No. 1 Proffitt, Section 12-20-10w, a 298-bbl. oil well

feet, total depth, flowed 66 bbls. of oil in four hours and made potential of 1,008 bbls.

Same company's No. 6 Ferris B, NW NE NW Section 23-24-11w, had initial flow of 121 bbls. of oil in four hours, earning potential rating of 940 bbls. It topped Misener sand at 3,803 feet and was bottomed at 3,814 feet.

New operations in Stafford County: E. H. Moore No. 2 Wallace, NE NW NE Section 24-24-11w, building rotary rig; same operator's No. 11 Johnson, NW SE SE Section 13-24-11w, building rotary rig; Stanolind Oil & Gas Co. No. 4 Fuller, C W half SE SW Section 11-24-11w, rigging up rotary; E. H. Moore No. 5 Johnson, NW SE NE Section 13-24-11w, rotary rig; same operator's No. 6 Johnson, SW SE NE Section 13-24-11w, cellar; same operator's No. 7 Johnson, NE SE NE Section 13-24-11w, location; same operator's No. 8 Johnson, SE SE NE Section 13-24-11w, location; Stanolind Oil & Gas Co. No. 5 Hartnett, NE SE NW Section 13-24-11w, rigging up rotary; same company's No. 6 Martin, C W half NE NW Section 14-24-11w, rigging up rotary; E. H. Moore No. 1 N. W. Johnson, SW NW NE Section 13-24-11w, building rotary rig; same operator's No. 2 N. W. Johnson, SE NW NE Section 13-24-11w, building rotary rig.

Rice County

J. H. Tatlock No. 10 Drews, NE SW SW Section 5-20-10w, in the Rice County sector of the Silica field, found Arbuckle lime at 3,328-34 feet, total depth, pumped 106 bbls. of oil in eight hours and made potential of 320 bbls. daily.

Same operator's No. 5 Bayer B, SE NE NW Section 7-20-10w, pumped 116 bbls. of oil in eight hours and had potential rating of 345 bbls. daily. Poduction was from Arbuckle lime at 3,308-11 feet, total depth.

Lauck Petroleum, Inc., No. 1 Berscheit, NW NW SW Section 18-20-10w, topped Arbuckle lime at 3,273 feet, was bottomed at 3,290 feet, and pumped 15 bbls. of oil daily.

Shell Petroleum Corp. No. 2 Cramm A, NE cor. Section 15-19-9w, North Cramm pool, swabbed 94 bbls. of oil in eight hours, making potential of 213 bbls. It found Arbuckle lime at 3,247-58 feet, total depth.

One new test in Rice County was reported at Continental Oil Co. No. 2 Siemsen, SW NW NW Section 18-18-7w, Geneseo district. Rotary rig was being erected.

Estimated Daily Production

Estimated daily production for Kansas for the week ending January 7, and for the preceding week was as follows:

	Barrels	
	Jan. 7	Dec. 31
Oxford City	975	950
Burrton	8,675	8,775
Ritz-Canton	3,950	4,025
Graber	2,550	2,700
Hollow-Nikkel	1,775	1,850
Lerado	575	575
Voshell	1,925	1,900
Wellington	2,100	1,975
Ellsworth County:		
Lorraine	1,250	1,875
Other pools	1,105	1,220
Rice-Barton counties:		
Bloomer	1,425	2,550
Chase	3,100	3,950
Geneseo	3,625	3,300
Raymond	650	800
Silica	8,125	10,050
South Silica	1,275	2,350
Keesling	850	700
Wherry	2,250	2,700
Miscellaneous Barton	6,640	5,395
Miscellaneous Rice	5,680	5,925
Russell County	17,875	22,525
Sedgwick County	3,950	3,850
Ellis:		
Bemis	5,250	6,375
Miscellaneous	2,270	2,980
Kingman County	690	665
Stafford County	4,085	4,990
Greenwood County	8,950	8,825
Butler County	18,525	19,125
Other fields	17,055	16,200
Total Kansas	137,150	149,100

Russell County

Cities Service Oil Co. No. 1 Miller E, NW NW SE Section 20-14-14w, Vaughn area, in Russell County, failed to find oil and was dry and abandoned at 3,283 feet, total depth.

R. H. Shields No. 3 Giese, SW SW NE Section 28-14-13w, Letsch pool, was building rig.

McPherson County

H. & M. Drilling Co. No. 2 Wiggers, C NW NE Section 36-19-2w, Ritz-Canton field, McPherson County, found Mississippi lime at 2,970-80 feet and was bottomed at 2,981 feet. It swabbed 119 bbls. of oil in eight hours and made potential of 267 bbls. of oil, with an estimated 1,500,000 cu. ft. of gas daily.

Barton County

Tom Palmer No. 1 Polzin, NE SE SW Section 4-16-12w, North Beaver area, Barton County, had a

(Continued on Page 90)

Eastern Field Report

By STAFF CORRESPONDENT

Armstrong County Deep Test Now Interests Pennsylvania

PITTSBURGH, Pa., Jan. 9.—An interesting new deep test is being started in Pennsylvania where Peoples Natural Gas Co. is hauling in material to a location on the Lowry Martin farm in Wayne Township, Armstrong County. It is located on the Rural Valley Quadrangle .95 mile west of longitude 70 degrees 20 minutes and 2 miles south of latitude 40 degrees 55 minutes and on the Greendale anticline.

This test will be drilled with standard cable tools by Contractor Wallace Haupt from the northern gas fields. The probable depth to the Onondaga is between 6,800 and 7,000 feet and is the first test of that depth to be drilled in that region.

Twenty-five completions were reported from the lower Eastern fields of which eight were dry holes, 14 gas wells and three producers with a daily initial of 11 bbls. There was a fair Oriskany gas well in Kanawha County, West Virginia, and another fair gas well in Southeast Ohio.

SOUTHEAST OHIO

In Harrison County, Southeast Ohio, Columbian Carbon Co. topped the Onondaga at 4,583 feet in the deep test on the George D. Miller farm in Section 23, German Township, near Cadiz Junction, and is drilling at 4,608 feet. Elevation starts at 1,223 feet which places that formation at subsea minus 3,360 feet. The depth of the actual top of the lime may be corrected after steel line measurement. The Berea in this test was topped at 1,384 feet.

In Muskingum County, Novo Oil & Gas Co. completed a fair well in the second test on the Charles and Albert Merriam (now B. E. Shurtz) farm in the SW Section 17, Harrison Township. It was drilled to a total depth of 4,265 feet and gauged 5,500,000 feet a day from the Clinton sand.

In Athens County, Hocking Valley Drilling Co. and others drilled No. 5 Hocking and Athens Coal Co. tract in the SW Section 35, York Township, through the Berea sand to 1,200 feet. It was dry and may later be carried to the Clinton sand. In Section 13, Lodi Township at Pratts Fork, Gross and McCune drilled a shallow well, No. 4 Pearl and Nettie Sapp, through the Mitchell sand to 476 feet and it was also dry.

In Licking County, Emerald Petroleum Co. and others drilled on the Isaac A. Frey farm in the SW Section 9, Fallsbury Township, through the Clinton sand to 2,996 feet and it had only a light showing of oil and was plugged.

In Morgan County, Pure Oil Co. completed No. 19 C. H. Swytzor in the SW Section 28, York Township, in the Berea sand at 1,286 feet. It had a showing of 5 bbls. a day but it was tubed for a gas-pressure well.

In Perry County, Kissling Drilling Co. completed No. 3 E. A. Griggs in the NW Section 11, Jackson Township, in the Berea sand at 925 feet, gauging 50,000 cu. ft. a day with no oil.

SOUTHWEST PENNSYLVANIA

In Southwest Pennsylvania there were two dry holes and two gas wells. In Allegheny County, Price Brothers completed a test on the William Campbell Estate in Shaler Township in the Thirty-Foot sand, total depth 1,828 feet, gauging 150,000 cu. ft. a day.

In Ross Township, Allegheny County, Koenig & Co. deepened No. 1 M. Koenig farm through the Hundred-Foot sand and it was dry. In Shaler Township, J. S. Wally is drilling on the Wilson Shaw farm and has reached 150 feet. In North Fayette Township, Young Brothers are drilling at 500 feet on the James Sturgeon farm.

In Beaver County, Dodd & Hobbs drilled on the James P. McCoy farm in Kennedy Township through the Berea sand and it was dry. In Greene Township, B. C. Laughlin is drilling at 1,100 feet on the A. M. Covert farm. In Hanover Township, George Dawson is down 400 feet on the Thomas S. Mansfield farm.

In Washington County, Equitable Gas Co. completed the test on the Porter E. Herrod farm in Amwell Township as a gas well at 1,602 feet. The salt sand was topped at 1,585 feet with 336,000 feet of gas at 1,588-90 feet.

In North Strabane Township, Washington County, C. L. Glass and others have started a test on the J. C. McNary farm which has reached 440 feet. Here, Keystone Drilling Co. is down 2,490 feet on the Frank Grego farm.

In Chartiers Township, Washington County, Cannonsburg Iron & Steel Co. is drilling at 2,100 feet in the second test on its fee. In Hanover Township, R. M. Duden and others are drilling at 1,200 feet on the Roy Scarum farm. In Hopewell Township, McFadden & Co. spudded in and shut down on the J. W. Reed farm.

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. is drilling at 680 feet in No. 3577 C. T. Conn farm. A. V. Lewis shut down No. 13 J. Frank Wilson at 160 feet.

Greene County

In Greene Township, Greene County, Equitable Gas Co. is drilling on the George W. Hixenbaugh farm at 2,896 feet with the Bayard sand at 2,836-70 feet and 84,000 cu. ft. of gas showing at 2,844 feet.

In Center Township, Carnegie Natural Gas Co. has reached 2,174 feet in No. 4 J. H. Orndoff. In Monongahela Township, Brummage and others are drilling at 1,260 feet S. G. Durr test. In Morris Township, C. H. McVay is down 545 feet on the Elmas Laughman farm.

In Wayne Township, Cummins & Phillips shut down deepening No. 1 W. E. Kerns at 3,040 feet. In Springhill Township, North Eastern Gas Co. is drilling at 2,650 feet in No. 1 J. W. McNichols.

Deep Tests

On Chestnut Ridge the test of New Penn Development Co., William E. Snee and others on the Indian Creek Coal & Coke Co. lease in South Union Township, Fayette County, is drilling at 6,700 feet, having been delayed due to caving requiring much cementing. In this township, work has been resumed agitating water in the bottom of Peoples Natural Gas Co. test on the Piedmont Coal Co. A final gauge and rock pressure is expected this week.

In North Union Township, Fayette County, Wasson & Co. drilled to 6,885 feet on the J. H. Sorg farm on Chestnut Ridge and shut down and cemented from 6,829 feet to bottom. This should be within 100 feet of the Onondaga.

On this anticline in Springhill Township, Fayette County, L. J. Houze Convex Glass Co. cleaned out to within 21 feet of the lost tools on the Paul Dunham farm and cemented back and is now drilling through the cement.

In Beaver County, Hanley & Bird are drilling at 4,355 feet on the S. Calvin farm in South Beaver Township. In Mercer County, Carnegie Natural Gas Co. has reached 4,844 feet on the A. S. McCullough farm in Jefferson Township.

WEST VIRGINIA

Two small producers were completed in West Virginia. In Tyler County, George Kerns deepened No. 1 Vietta Ritter from 2,139 to 2,153 feet, the Injun sand, and at 2,150 feet there was about 5 bbls. a day.

In Ritchie County, Astrom Oil Co. completed No. 15 H. Steursburge in Grant district in the Injun sand for a 1-bbl. pumper.

In Cabell County, H. A. Waggoner completed the test on the Leonard Paugh one-acre tract in M. Comas district as a gas well at 3,453 feet. It had a gauge of 450,000 cu. ft. a day 18 hours after shot.

In Calhoun County, Richards & Connolly completed the test on the Amos Sturms farm in Sherman district with 717,000 cu. ft. of gas at 2,139-67 feet. In this district, Ivy Gainer and others completed a test on the Stump heirs farm, with 475,000 feet of gas at 1,875-1,905 feet. It was not shot.

In Clay County, Pittsburgh and West Virginia Gas Co. drilled No. 7660 on the W. H. Smith farm in Otter district to 2,208 feet and it was dry. There was a show of oil at 1,610 feet.

In Gilmer County, L. E. and W. H. Mossor completed the test on the S. L. Riddle farm in DeKalb district as a gas well at 1,972 feet with 59,000 cu. ft. of gas before shot at 1,958-70 feet.

In Lincoln County, Cambridge Gas Co. completed the test on the Edward Davis, Sr., heirs farm in Duval district which was deepened from 3,502 feet to 3,811 feet. There was a gauge of 180,000 cu. ft. from the Berea and Brown shale.

In Ritchie County, S. R. S. Oil Co. completed the test on the C. R. Bradley farm in Grant district in the Maxton sand at 1,458 feet gauging 520,000 cu. ft. In this district, Moon Gas Co. deepened No. 2 Frank Finley through the Squaw sand to 2,204 feet and it is good for 368,000 feet.

In Murphy district, Ritchie County, Hays Gas Co. deepened No. 4 W. R. Hays to 1,997 feet, the Injun sand, gauging 75,000 cu. ft. In this district, Hope Natural Gas Co. deepened No. 5945 Jesse M. Jackson to 1,950 feet, the Injun sand, and it is a very small gas well.

In Roane County, Hope Natural Gas Co. completed No. 7820 Clark Wright in Reedy district at 2,633 feet. The Berea was missing and it was a dry hole.

In Wirt County, Glen W. Roberts drilled No. 10 W. C. McConaughey in Burning Springs district through the Injun sand to 2,100 feet and it was dry.

Oriskany Gas Field

In the Oriskany gas field in Kanawha County, United Fuel Gas Co. completed No. 4794 B. B. Milam in Poca district in the Oriskany sand, total depth 5,009 feet, with a final gauge of 15,504,000 feet.

In this district, the same company has made two locations, No. 4827 O. D. Price and others and No. 4828 M. R. Mairs and others. This company topped the Corniferous lime at 4,846 feet in No. 4816 M. L. Miller and others and is drilling at 4,532 feet in No. 4795 Nancy Carney and others; at 3,762 feet in No. 4807 C. O. Slater and others; at 1,777 feet in No. 4812 J. A. Wines and others; at 1,960 feet in No. 4815 Mamie A. Ray; at 715 feet in No. 4817 W. M. Vance; at 2,050 feet in No. 4818 W. H. Fisher; at 260 feet in No. 4822 W. F. Beanne; at 1,450 feet in No. 4823 C. O. Patterson and others; and is building rig for No. 4825 W. P. Tolbert and others.

In Poca district, the test of Godfrey L. Cabot, Inc., on the Putnam Co. tract is drilling at 2,348 feet and the test on the Helen M. Hoge farm at 911 feet. Spartan Gas Co. has reached 3,250 feet on the Ernest Fisher and other lease; Columbian Carbon Co. 150 feet in No. 1 L. M. Fields and others; United Carbon Co. 4,640 feet in the J. H. Burdette test; West Virginia Gas Corp. 4,660 feet in No. 2 J. H. Burdette. In Elk district, Columbian Carbon Co. is drilling at 1,255 feet on the M. N. Landers and others farm.

Outside Deep Tests

In Jackson County, Joe Rubin and Norwood P.

(Continued on Page 90)

Another Milestone along the road to Drilling Progress..

The New

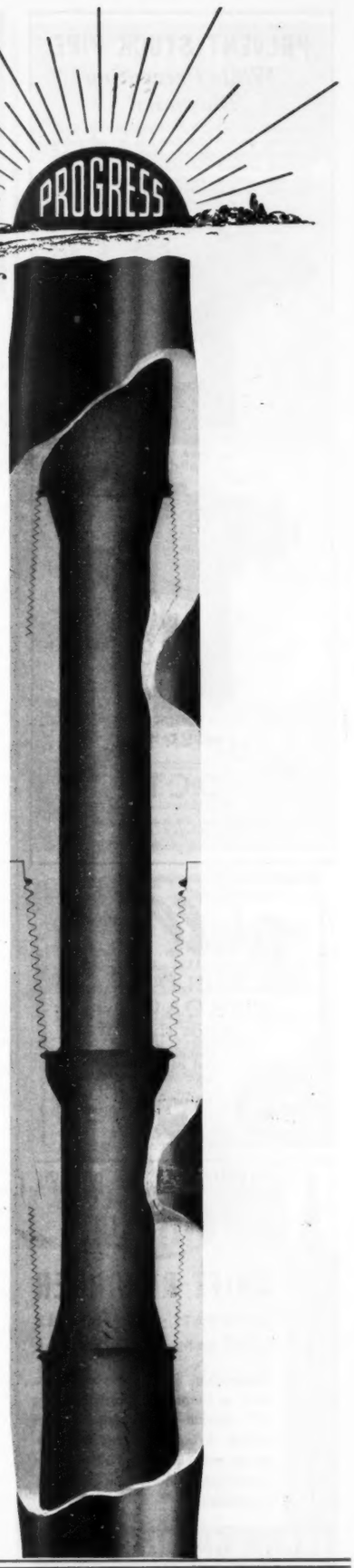
REED

DOUBLE STREAMLINE

TOOL JOINTS

FOR

SLIM HOLE EXPLORATION



• REED DOUBLE STREAMLINE TOOL JOINTS HAVE LESS INCREASE IN DIAMETER OVER THE PIPE . . . AND A LARGER DIAMETER PIPE CAN BE USED WITH THE SAME HOLE CLEARANCE AT THE JOINT WHICH GIVES

MORE FLUID CAPACITY

DOWN THE DRILLING STRING THAN INTERNAL FLUSH TOOL JOINTS OF THE SAME OUTSIDE DIAMETER

MORE VELOCITY IN RETURNS

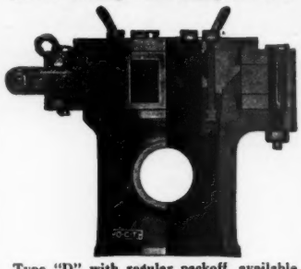
THAN INTERNAL FLUSH TOOL JOINTS OF THE SAME OUTSIDE DIAMETER

THE REED DOUBLE STREAMLINE TOOL JOINT IS A GREAT IMPROVEMENT OVER EXTERNAL FLUSH FOR PRESSURE DRILLING AND FOR DRILLING WITH CONTROLLED CIRCULATION

REED ROLLER BIT COMPANY

PREVENT STUCK PIPE
While Preventing Blowouts!

Include an O-C-T Preventer in your drilling control hook-up as a safeguard against stuck pipe. With the packoff latched around the pipe, you can rotate for days and move pipe up and down to prevent sticking while killing the well.



Type "D" with regular packoff, available flanged or screwed, with or without outlets

Type "D" with stripper rubber.

OIL CENTER TOOL CO.
O-C-T
HOUSTON, TEXAS, U.S.A.
CABLE ADDRESS "OCENTOL"
Sold Through Supply Stores

"PRE-SOLD"
Wall
MANILA
OIL FIELD
CORDAGE
stands the gaff!
Complete stocks are carried in both mid-continent and gulf coast fields.
Wall Rope Works, *Inc.*
2000 Nance Street,
Houston, Texas
Telephone: Cap. 0244

CONTROLLED VERTICAL DRILLING
TOTCO
DRIFT RECORDER
ACCURATE · DEPENDABLE
FAST · SAFE · ECONOMICAL
Measuring the inclination of a well at frequent intervals, results in accurate information from which to formulate drilling technique and methods. TOTCO gives dependable information under *all* conditions.
CORPORATION, LTD.
1311 N. Havenhurst Dr., Los Angeles
TOTCO RENTALS AND SERVICE
Carson Machine and Supply Co.
Houston Oil Field Material Co.
R. D. Wallace, Casper, Wyoming
EXPORT: Lucey Export Corporation

Among the Drilling

HEYSER, HEARD & CLARDY, Inc., Dallas, Tex., is now drilling No. 4 McKinney for Sun Oil Co. in Starr County, Texas, and is also drilling No. 1 Carlock for Shasta Oil Co. in the Aransas Pass field. A new string of drill pipe is being moved in for Sun Oil Co. wildcat at Caplen, Galveston County, Texas. This company also has a rig running or Atlantic at Magnet, Wharton County, Texas.

LONG & WOLFE of Tyler, Tex., are nearing completion of Normandie Oil Corp. No. 1 Garrett in the Magnolia field of Columbia County, Arkansas. In the same field the contractors are approaching the pay formation in Atlantic Refining Co. No. 1 Barnett. A gas well was completed in the Caddo Parish section of Rodessa this week for the Eagle Production Co.

HARRY HANBURY, Homer, La., contractor, has extended the Shreveport field over 2 miles to the northeast by completion of his No. 1 Lowe recently. He is now moving on an offset location.

EPPENAUER DRILLING CO., owned by A. R. Eppenauer, now a ranch owner in Jeff Davis County and formerly a resident of Fort Worth and San Angelo, Tex., consummated one of the largest sales of oil properties known in lower West Texas. The deal included 64 producing wells and 2,915 acres and amounted to a total consideration of $1,900,000. Terms included part cash and a fourth mineral reservation to the oil in place. The holdings were transferred to Intercoast Petroleum Corp., Los Angeles. The properties acquired, including oil and gas production, are in Loving, Ward, Ector, Upton, Crockett, Coleman and Shackelford counties. Production on the properties as of December 1 aggregated 18,732 bbls. daily with present allowable production 1,355 bbls. daily. J. A. MacDermott, Intercoast vice president, will be placed in charge of the new holdings and the company plans to establish headquarters at Midland. Mr. Eppenauer intends to devote most of his time to his ranching interests.

JAMES H. GREEN, contractor of Brownwood, Tex., has received contract from A. M. Stalcup of Brownwood for drilling a new Coleman County test in West Central Texas. It is about 5 miles west of Bangs and is contracted to 1,350 feet. It is on the E. W. Polk 200-acre tract, Manuel Martinez Survey 751. The well also is 450 feet west of a well drilled by Stalcup in 1933 which produced for nearly two years.

PITZER & WEST of Breckenridge, Tex., have received contract from G. M. Gillespie of Fort Worth for drilling a new Jack County wildcat test. Location is in the southwest part of Section 3345, T.E.&L. Survey, in the northwest part of the county and 2½ miles southeast of Jermyn. The test will be just southwest of a small pumper brought in last year by Gillespie from 3,170 feet, and is a quarter mile southwest of a dry hole he drilled to 3,250 feet.

RICHARDS & HOLLOWAY, one of the major developers of the Flag Lake pool of northwestern Henderson County, East Central Texas, have completed one of the largest wells in the field and are planning two more. The recent completion was their No. 1-B J. P. and T. Tarkington, in the W. K. Newell Survey, in the southwest extension area. It gauged 311 bbls. of oil daily which is almost twice as large as any previous well in the pool. The operators are planning two more tests on a 30-acre tract in the W. K. Newell Survey which they have farmed out from Cities Service Oil Co. The operators also are reported to have purchased the 20-acre lease of Tip DeArman on the east central line of the same survey, with one producer and also the five-acre Peyton Brothers lease, with one small producer and one permit issued for a second test.

TRINITY DRILLERS, Inc., received contract from Southern Minerals Corp. to deepen a wildcat in Brooks County, Texas, which was abandoned in 1937 at a total depth of 6,028 feet. The well is on the T. S. Proctor lease in the Los Olmos and Loma Blanca surveys. In the East Premont field, Jim Wells County, contract was received from Transwestern Oil Co. to rework No. 1 Dunlap, completed several weeks ago to extend the field about a mile south. Two operations are reported in the Cordele field, Jackson County, for Lewis Production Co. while another rotary is operating in the Driscoll field for Continental Oil Co.

ALLEN & MORRIS received contract from Seaboard Oil Co. to drill No. 34 Luby in the Luby field, Nueces County, Texas. This is the second rig to be erected in this field

STANCLIFF
PATENTED
Ribbed
SCREEN

The Screen is the Business End of the Well
Use Stancliff Screen for Maximum production
HOWARD SMITH CO.
1201 SAWYER STREET
Houston, Texas

ARMSTRONG

STEAM TRAPS
make drilling engines work better!
ARMSTRONG MACHINE WORKS
868 Maple Street Three Rivers, Michigan

Standco
NO-SMOKE
STANDCO BRAKE LINING
stands the gaff and gets the job done without scoring brake rims. See page 1940, Composite Catalog.
STANDARD BRAKE LINING CO.

Contractors

during the past few weeks, both being operated for Seaboard Oil Co. In the La Rosa field, Nos. 7 and 8 Rooke are being spudded for Geophysical Service, Inc., while No. 4 Spaulding is drilling below 4,700 feet. Two other operations are reported in this field for Phillips Petroleum Co. on the Pavelock lease, and Shield Oil Co. and others on the Sasse.

R. B. (CAP) FIELDS is preparing to spud his No. 1 J. F. Barker, a projected 6,000-foot test on the north flank of the Boling dome in Wharton County, Texas. The well is being drilled on a farm-out lease from Shell Petroleum Corp. in the John Huff League.

CLAUDE DRILLING CO., Tulsa, and associates made a discovery in the Effingham, Ill., area which indicates the existence of a southwest-northeast trend from the Lake Centralia-Salem field. Their No. 1 Wagoner, in NE SE of Section 13-7n-5e, southwest of Effingham, got a richer stratum of McClosky sandy dolomite from 2,669 to 2,672 feet, which was indicated by saturated cuttings and free oil through 2,600 feet of rotary mud and water.

H. M. HARREL extended gas production in the Bammel field, Harris County, Texas, approximately 3,000 feet east with completion of No. 1 Ehrhardt which is producing from the Cockfield sand at 6,170-90 feet. The well was drilled jointly with George P. Lawrence.

PARKER DRILLING CO., Tulsa, is preparing to plug back and test higher shows at Gulf No. 8 Garrett, C NW SW Section 27-2s-3w, southwest edge test in the deep Fox area of Carter County, Oklahoma. A cement retainer run at 8,115 feet failed to set; they were preparing to rerun. The well is in the oolitic lime, from 8,250 feet to 8,315 feet, total depth. Sulfur water was found at the low level. This contractor is drilling Gulf No. 1 Empire-Franklin, C SE SE Section 27-2s-3w, below 7,656 feet in the McLish, which was topped at 7,460 feet.

OVEN DRILLING CO., Enid, Okla., has been working on a well which is watched with interest because of its significance in western Oklahoma developments. This is Champlin Refining Co. No. 1 Mackey, in NW SE of Section 4-24-8w, in the Hillsdale pool of Garfield County, which broke loose when the crew was attempting to run tubing and cleaned itself from 1,500 to 3,500 feet, flowing oil and water. Previously, the well had made a head flow of 25 bbls. of oil into tanks. Operators plan to continue running tubing and test the well some time Sunday. The hole was bottomed at 6,687 feet. This contractor is also drilling Champlin No. 2 Boehm, in C N half SE NW of Section 4-24-8w, which has been coring at 6,465 feet; and Champlin No. 1 Allen, in SE quarter of Section 26-24-8w, was coring at 4,760 feet, looking for the Tonkawa sand.

JOSEPH V. DUNBAR, former drilling contractor of Tulsa, and now of St. Elmo, Ill., is buying a new spudding machine to use in the southern Illinois field.

WARREN & BRADSHAW Drilling Co., Tulsa, is succeeding Warren & Robinson Drilling Co. The new firm is headed by R. B. Warren, who has been active in the drilling contracting business, and Bob Bradshaw, who has been vice president of the International Supply Co. for 12 years.

COOPER DRILLING CO., Shawnee, Okla., Howard L. Berkey and Glen C. Shaw of Tulsa, and others are drilling No. 1 Caughlin in SE NE SW of Section 30-25n-1e in the Tonkawa sector of Kay County, Oklahoma. Surface pipe has been set.

J. W. SIEGFRIED, Tulsa, is drilling a wildcat west of Lynn Lane, 10 miles east of Tulsa. The well is No. 1 J. Claiborne Mitchell, in SW SE of Section 2-19-14e, which is below 1,130 feet. He reports the Bartlesville sand was found at 777 feet, but dry; at 812 feet he picked up a little gas. Except for 160 feet of 8-inch surface pipe, the hole is open, and Siegfried proposes to case the well if he finds the pay zone productive. Drilling has proceeded slowly to overcome cavy formations.

CRESCENT DRILLING CO., Shreveport, La., No. 1 Neese, in C NE NW of Section 24-9-10e, in the Wetumka area, Oklahoma, was reported dry and abandoned at a total depth of 3,176 feet in the Cromwell sand.

ENGLISH DRILLING CO. has completed its No. 1 Cox-Covey, NE NE SW of Section 11-5n-9w, on east side of the Cement field, Caddo County, Oklahoma, for 760 bbls. of oil a day. Sand was had at 3,375-96 feet, total depth, and casing was set on top.

BREWSTER

TRAVELING BLOCKS

- American Roller Bearings
- 36" Manganese Steel Sheaves
- 450 Ton Capacity.
- Straight Fall.
- Perfectly Balanced.
- No Weave or Wobble
- Safety Guards, rounded edges, counter-sunk Bolts and Pins.

WRITE FOR PRICES

THE BREWSTER CO., INC.
Phone 2-3181 Shreveport, La.
New Iberia . Houma . Lake Charles
Rodessa

For Your DRILL PIPE'S SAKE

USE

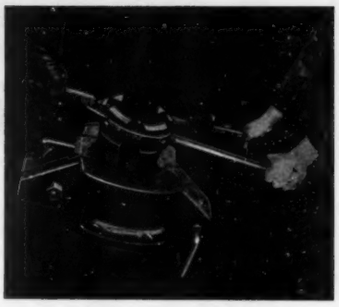
KINZBACH-AJAX SLIPS!

● They reduce rotary slip costs since, by changing inserts, several pipe sizes can be handled with one set of segments. They assure even distribution of load over entire gripping surface as each insert is individually anchored to slip segment. These and many other advantages are described in descriptive literature, gladly sent upon request.

Available Through Leading Supply Stores

KINZBACH TOOL CO., INC.
HOUSTON, TEXAS

BAASH-ROSS
Open End
TUBING SPIDER



Protects Tubing
Speeds Up Work
Safe To Handle
Strength For Any Load

Quickly Installed
Without Breaking
Connections

Send For New Bulletin

BAASH-ROSS
TOOL COMPANY
5512 Boyle Ave. • LOS ANGELES
5300 Clinton Rd. • HOUSTON
Export Office: 30 Rockefeller Plaza
New York City

H. C. SMITH
ROCK BITS
INSURE INCREASED SPEED AND ECONOMY

H. C. SMITH ROCK BIT
available in sizes 5⅞" up to and including 13"

Send for Folder or see Composite Catalog

H C Smith Oil Tool Co.
GENERAL OFFICES AND PLANT
P. O. Box 431, Compton, Calif.

Illinois Service:
BROWN-WALTERS CO.,
Centralia, Illinois

Rocky Mountain Area

By
T. R. INGRAM

West Kevin Pool in Montana Extended 2 Miles Northwest

DENVER, Colo., Jan. 9.—The northern Rocky Mountain area had a dull week with only one completion and three new operations. The completion marked a 2-mile extension of the West Kevin pool in Montana by W. M. Cassidy No. 1 Phoenix. The new operations included a wildcat to be drilled south of Oregon basin, in Wyoming, a location on the Mahoney dome in Sinclair-Wyoming Oil Co. No. 2 Mahoney Unit, and a shallow test in the Bloomfield district, northwestern New Mexico.

NEW MEXICO

The Mattix pool in Lea County, southeastern New Mexico, was extended one-fourth mile south at Weir Drilling Co. No. 2 Woolworth, NE SE SW Section 28-24-37, which made potential of 3,120 bbls. of oil in 24 hours through 3-inch choke and on gas lift. In initial four-hour test, it flowed 700 bbls. of oil in four hours through two separators. Pay sand was found at 3,487 feet and the hole was bottomed at 3,536 feet in sand. It was completed.

Southeastern New Mexico completions of the past week also included seven producers in the Vacuum area, five producers in other pools and two failures, all in Lea County. No completions in Eddy County were reported.

Standard Oil Co. of Texas No. 3 State, Lease 4, C NW SE Section 27-17s-35e, flowed 112 bbls. of oil in three hours through open 2-inch tubing, after acidizing. Total depth was 4,625 feet, with pay topped at 4,355 feet. It is in the Vacuum area.

Phillips Petroleum Co. No. 3 Hale, C SE SE Section 35-17s-34e, had pay at 4,228 feet, was bottomed at 4,552 feet and flowed 194 bbls. of oil in nine hours through open tubing set at 4,549 feet. The well was acidized with 1,500 gallons.

Same company's No. 1 Mabel, C SW NW Section 35-17s-34e, total depth of 4,716 feet, topped pay at 4,525 feet and flowed 95 bbls. of oil in 24 hours.

Continental Oil Co. No. 2 Meyer B-31, C NE SW 3,700 feet. Total depth was 3,872 feet.

Magnolia Petroleum Co. No. 20 State-Bridges, C SW NW Section 24-17s-34e, was completed at 4,690 feet, total depth, and flowed 46 bbls. of oil in one hour through choke on 2½-inch tubing set at 4,688 feet. Pay was found at 4,365 feet.

Section 31-20s-38e, flowed 21 bbls. of oil daily by gas lift and through open tubing after striking pay at

Magnolia Petroleum Co. No. 21 State-Bridges, C NE NE Section 23-17s-34e, total depth at 4,660 feet, topped pay at 4,556 feet, and flowed 351 bbls. of oil naturally in 14 hours.

Continental Oil Co. No. 1 State H-22, C SW SE Section 22-17s-34e, flowed 20 bbls. of oil hourly after finding pay at 4,510 feet. Gas gauged 362,000 feet daily; total depth was 4,716 feet.

Continental Oil Co. No. 1 State I-7, NE NW NE Section 7-17s-34e, had no shows of oil, gas, or water at total depth of 4,895 feet and was dry and abandoned.

Anderson & Prichard No. 4 Carlson-Harrison, NE SE NE Section 27-25s-37e, was dry and abandoned at a total depth of 3,349 feet in sand.

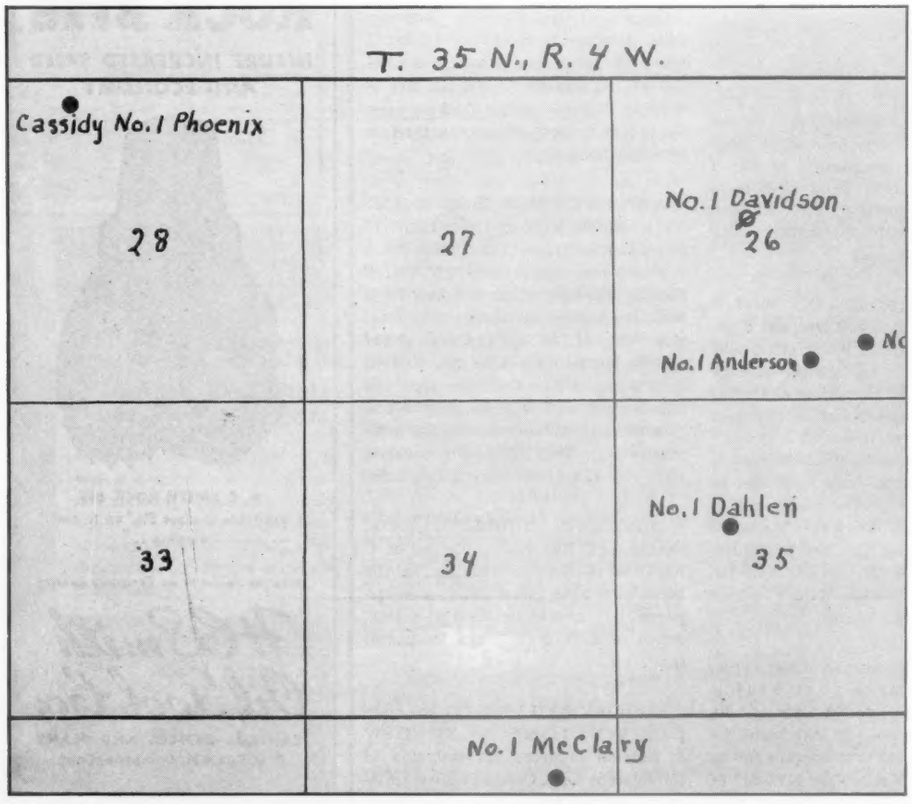
Same company's No. 4 Wells, C NW NW Section 5-25s-37e, set 2-inch tubing at 3,528 feet after finding pay at 3,455 feet and flowed 13 bbls. of oil hourly with 300,000 feet of gas. Total depth was 3,550 feet.

Texas Pacific Coal & Oil Co. No. 7-A State, NW NW NW Section 22-23s-36e, total depth 3,748 feet, was plugged back to 3,720 feet and flowed 25 bbls. of oil daily through open tubing, with an estimated 6,000,000 feet of gas. Pay was topped at 3,670 feet.

Magnolia Petroleum Co. No. 1 Carson, C SE NE Section 33-21s-37e, flowed 107 bbls. of oil in six hours after shooting. Pay was found at 3,675 feet, total depth 3,770 feet.

Continental Oil Co. No. 1 Hawk B-6, NW NW SE Section 6-21s-37e, total depth 3,819 feet, topped pay at 3,720 feet and flowed 39 bbls. of oil in 24 hours.

Twin Oil Corp. No. 2 State, C SW NW, Section 32-21s-37e, was completed naturally after finding pay at 3,625 feet. In a seven-hour test the well flowed 57 bbls. of oil. Total depth was 3,792 feet.



Extension of the West Kevin pool between the Kevin-Sunburst and Cut Bank fields in Montana in Cassidy No. 1 Phoenix

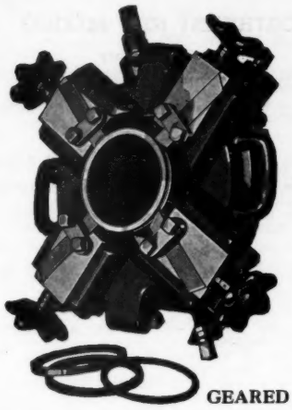
Lea County

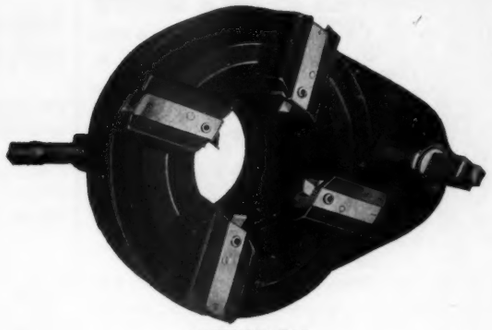
Barnsdall Oil Co. No. 1 Humble-State, C NE SE Sec. 33-16-36. S.D.O. 4,997 ft.
Repollo Oil Co. No. 1 State, Lease 182, C S½ SE SW Sec. 31-16-37. W.O.C. 3,015 ft.
Skelly Oil Co. No. 1-N State, C NW NE Sec. 36-16s-36. W.O.C. 5,012 ft.
Amerada Pet. Corp. No. 1-LA State, C SE SW Sec. 1-17-36. Drlg. 4,298 ft.
Continental Oil Co. No. 1-A Sanderson B-14, C N½ NW NW Sec. 14-20-36. W.O.C. 1,443 ft.
Continental Oil Co. No. 1 State H-34, C SE SE Sec. 34-17-34. M.I. Rot.
Continental No. 4 State H-35, C SE NW Sec. 35-17-34. Drlg. 3,006 ft.
Continental Oil Co. No. 5 State, H-35, C NE NW Sec. 35-17-34. Loc.
Drilling & Exploration Co. No. 1-B State, C S½ SE NW Sec. 22-17-35. Drlg. 4,245 ft.
Geo. F. Getty, Inc., No. 4-F State, C NE NW Sec. 36-17-34. T.D. 4,700 ft.; tstg.
Humble O. & R. Co. No. 2-J State, C NW SW Sec. 19-17-35. Drlg. 3,385 ft.
Humble O. & R. Co. No. 1-K State, C SE SE Sec. 28-17-35. Drk.
Humble O. & R. No. 2-K State, C NW NE Sec. 32-17-35. Loc.
Magnolia Pet. Co. No. 3-M State, C SW NW Sec. 34-17-35. T.D. 4,683 ft.; cmtg.
Magnolia Pet. Co. No. 2-J State, C NW SE Sec. 22-17-34. Loc.
Magnolia Pet. Co. No. 22 State-Bridges, C SE SW Sec. 24-17-34. Drlg. 3,770 ft.
Magnolia Pet. Co. No. 23 State-Bridges, C NW SW Sec. 24-17-34. W.O.C. 835 ft.
Maljamar O. & G. Co. No. 1-B Baish, C NE NW Sec. 22-17-32. T.D. 4,157 ft.; P.B. 3,527 ft. and S.D.
Maljamar O. & G. Co. No. 1-B Mitchell, C NE SE Sec. 20-17-32. W.O.C. 3,591 ft.
Maljamar O. & G. Co. No. 6 Mitchell, C SW NE Sec. 20-17-32. T.D. 3,600 ft.; W.O.S.T.
Maljamar O. & G. Co. No. 1-B State, C SW SE Sec. 16-17-32. T.D. 4,125 ft.; P.B. 4,115 ft.; tstg.
Ohio Oil Co. No. 4 State-McCallister, C NW SW Sec. 25-17-34. Drlg. 2,750 ft.
Ohio Oil Co. No. 2 State-Staplin, C NE SW Sec. 30-17-35. C.&P.
Phillips Pet. Co. No. 12 Santa Fe, C NE SW Sec. 28-17-35. T.D. 4,700 ft.; Swb. dry & shot.
Phillips Pet. Co. No. 13 Santa Fe, C NW NW Sec. 28-17-35. T.D. 4,695 ft.; swb. 97 B.O. in 24 hrs.
Phillips Pet. Co. No. 15 Santa Fe, C NE NE Sec. 28-17-35. T.D. 4,700 ft.; shot 4,334-4,680 ft.
Phillips Pet. Co. No. 18 Santa Fe, C NW NE Sec. 34-17-35. Drlg. 2,210 ft.
Phillips Pet. Co. No. 19 Santa Fe, C NW NE Sec. 35-17-35. T.D. 4,780 ft.; P.B. 4,688 ft. & W.O.C.
Phillips Pet. Co. No. 20 Santa Fe, C SW SW Sec. 27-17-35 C.&P.
Phillips Pet. Co. No. 21 Santa Fe, C NE NE Sec. 33-17-35. Loc.
Phillips Pet. Co. No. 22 Santa Fe, C NW SW Sec. 26-17-35. Drlg. 2,925 ft.
Repollo Oil Co. No. 2 State, Lse. 197, SE NE SE Sec. 6-17-34. Drk.
Shell Pet. Corp. No. 1-C State, C NE SE Sec. 24-17-34. W.O.C. 1,701 ft.
Shell Pet. Corp. No. 1-I State, C SW NW Sec. 29-17-35. T.D. 4,753 ft.; S.D.O.
Shell Pet. Corp. No. 1-S State, C NE SE Sec. 21-17-35. T.D. 4,745 ft.; tstg. on pmp.
Shell Pet. Corp. No. 1-V State, C NE SE Sec. 21-17-35. Rng. tbg. 4,680 ft.
Shell Pet. Corp. No. 2-V State, C SE SE Sec. 27-17-35. Drlg. 3,185 ft.
Standard Oil Co. of Texas No. 1 State, Lse. 6, C NW SW Sec. 34-17s-35. Drlg. 4,385 ft.
Standard Oil Co. of Texas No. 2 State, Lse. 3, C NW NW Sec. 32-17-35. W.O.C. 4,213 ft.
Standard Oil Co. of Texas No. 4 State, Lse. 4, C NW SW Sec. 27-17-35. Drlg. 260 ft.
Stanolind O. & G. Co. No. 1 State, C SW SE Sec. 1-17-36. Drlg. plug at 4,568 ft.
Texas Co. No. 1-T State, C SE NE Sec. 25-17-34. T.D. 4,725 ft.; F. 5 B.O.P.D. for 2 days & blew dry.

Twin Oil Corp. No. 1-D State, C SW NE Sec. 30-17-35. T.D. 4,700 ft.; Drlg. plg.
Westmount Oil Co. No. 1 State, C SE NW Sec. 30-17-35. T.D. 4,728 ft.; tstg.
Fullerton Oil Co. No. 1-A Walker, C SW NW Sec. 18-18-32. R.U.M.
Phillips Pet. Co. No. 16 Santa Fe, C NW SW Sec. 5-18-35. T.D. 4,750 ft.; to shoot.
Texas Co. No. 3-R State, C SE NE Sec. 6-18-35. T.D. 4,675 ft.; acdz. & swb. 40 B.O. in 8 hrs.
Shell Pet. Corp. No. 2 Foster, SE SW SE Sec. 34-19-36. Drlg. 1,005 ft.
Amerada Pet. Co. No. 7 Andrews, C E½ NE NE Sec. 23-20-26. T.D. 3,884 ft.; S.O.
Continental Oil Co. No. 1-A Sanderson, CN½ NW NW Sec. 14-20-36. Drlg. 3,132 ft.
J. M. Rush No. 3 State A-20, NW SW SE Sec. 20-20-37. Drlg. 3,385 ft.
J. M. Rush No. 4 State A-20, NW SE SE Sec. 20-20-37. Loc.
Texas Co. No. 16 Lieu-Lands, C NE SW Sec. 20-20-37. Drk.
Aloco Oil Co. No. 1 Carson, C SW SE Sec. 28-21-37. Drlg. by tools 3,520 ft.
Cities Service No. 1-M State, C SW SW Sec. 36-21-36. Drlg. 1,240 ft.
Continental Oil Co. No. 3 Lockhart B-1, C NW SE Sec. 1-22-36. T.D. 3,802 ft.; F. 60 B.O. in 8 hrs.
Continental Oil Co. No. 5 State, J-2, C SE SE Sec. 2-22-36. Loc.
Continental Oil Co. No. 6 Lockhart A-18, C W½ NW SW Sec. 18-21-36. T.D. 3,891 ft.; F. 14 B.O. in 8 hrs.
J. M. Rush No. 1 Weatherly, C SW NW Sec. 21-21-37. T.D. 3,790 ft.; F. 72 B.O. in 16 hrs.
Francis C. Wilson No. 3 State, NW SE NE Sec. 7-21-35. Drlg. 2,583 ft.
J. C. Clower No. 1-B Manda, NE NE NW Sec. 28-22-37. T.D. 3,681 ft.; shot & C.O.
Danglade & Clower No. 1-B Glier, C SE NW Sec. 33-22-37. T.D. 637 ft.
Continental Oil Co. No. 4 State J-2, C NE NE Sec. 2-22-36. Drlg. 1,510 ft.
Devonian Oil Co. No. 2 Christmas, SE SW SE Sec. 28-22-37. Loc.
Ohio Oil Co. No. 1 Saunders, C NE NW Sec. 1-22-36. T.D. 3,710 ft.; W.O.C.
Olean Pet. Co. No. 2 Brunson, SW NE SE Sec. 4-22-37. T.D. 3,717 ft.; tstg.
Olean Pet. Co. No. 2 Farrell, SW SE SE Sec. 22-22-37. Drlg. 2,940 ft.
Texas Pacific Coal & Oil No. 13-A State, C NE NE Sec. 11-22-36. Loc.
Twin Oil Co. No. 1-C State, C SE NE Sec. 17-22-37. Drlg. 3,403 ft.
Two States Oil Co. No. 3-B Cole, C NE NW Sec. 16-22-37. Drlg. 1,330 ft.
Walter Donnelly No. 1 Davis, C SE NW Sec. 33-23-37. T.D. 3,600 ft.; F. 12 B.O.P.D. W.O.C.O. unit.
Great Western Prod. No. 2-B Leonard, C NW NW Sec. 32-23-37. Loc.
R. Olson No. 1 Blinebry, C SW SW Sec. 29-23-37. Loc.
Montecito Oil Corp. No. 1 Woolworth, NE SE SW Sec. 33-24-37. T.D. 3,545 ft.; F. 150 B.O.P.D.
North Shore Corp. No. 1 Woolworth, NE NE NW Sec. 33-24-37. Loc.
North Shore Corp. No. 2 Woolworth, SE SE NW Sec. 33-24-37. Loc.
Parker Drlg. Co. No. 3 Erwin, C W½ NE SW Sec. 35-24-37. Drlg. 3,396 ft.
Phillips and Pure No. 4 Woolworth, C NW SE Sec. 33-24-37. Drlg. 1,540 ft.
Repollo Oil Co. No. 1 State, 157-C, SW SW SE Sec. 32-24-37. Drlg. 3,507 ft.; F. by heads.
Schermerhorn Oil Co. No. 4 Woolworth, C NE SE Sec. 28-24-37. Drlg. 1,270 ft.
Schermerhorn Oil Co. No. 5 Woolworth, NW SW NE Sec. 28-24-37. R.U.R.
Texas Co. No. 4 Black, C SE NW Sec. 21-24-37. T.D. 3,565 ft.; shot & F. 192 B.O. in 16 hrs.
Sam Weiner No. 2 Woolworth, SW NW SW Sec. 33-24-37. Drlg. 410 ft.
Culbertson & Erwin No. 2 Henry, SW SE SW Sec. 26-25-37. Drlg. 2,565 ft.
Geo. F. Getty No. 1-G State, NW NW NW Sec. 2-25-37. Drlg. 3,345 ft.
Gulf Oil Corp. No. 5 Stuart, C NE NE Sec. 10-25-37. R.U.S.T. 3,330 ft.
Gulf Oil Corp. No. 6 Stuart, C NW NW Sec. 11-25-37. Loc.
Italo Pet. Corp. No. 1 Carlson A-23, NW NW SW Sec. 23-25-37. W.O.C. 3,224 ft.
Italo Pet. Corp. No. 1 Carlson B-27, NE NW NE Sec. 27-25-37. T.D. 3,364 ft.; P.B. 3,354 ft.; R.U. to C.O.
Italo Pet. Corp. No. 1 Indian Pet. Corp., NE NE NE Sec. 6-25-37. Drlg. 3,324 ft.
Richmond Drlg. Co. No. 1-A State, C NW SW Sec. 2-25-37. T.D. 3,338 ft.; Drlg. by lost bit. S.G.
Sam Weiner No. 3 Smith, C N½ NE SE Sec. 4-25-37. Drlg. 3,032 ft.

Eddy County

Carper Drlg. Co. No. 3 Robinson, SW SW SE Sec. 25-16-31. T.D. 4,040 ft.; F. 50 B.O.P.D.
Dominion O. & G. Co. No. 3 Johnson, C NE SW Sec. 35-16-31. T.D. 3,950 ft.; S. 70 B.O. from 2,350 ft.
Fullerton Oil Co. No. 4-A Johnson, C SW NW Sec. 35-16-31. Drlg. 3,546 ft.
Danciger O. & R. Co. No. 1-B Turner, CEL NE SE Sec. 17-17-31. T.D. 3,530 ft.; tstg.
Hammond & Sons No. 1 Ployhar-State, SW SW SE Sec. 16-17-28. Drlg. 475 ft.
J. O. and J. H. Hammond No. 1 Paris, NE NW NW Sec. 5-17-29. S.D.O. 25 ft.
English & Harmon No. 1 Stogner, C NW SE Sec. 31-17-31. Drlg. 3,285 ft.
P. B. English No. 1 Saunders, SE SE SE Sec. 13-17-27. T.D. 460 ft.; 300 ft. O.I.H.
Etz Bros. No. 5 State, SE NE SE Sec. 16-17-30. Drlg. 3,240 ft.; swb. 25 B.O.P.D.
Flint Prod. Co. No. 1-L Dexter, SE NW SE Sec. 15-17-30. Drlg. 2,630 ft.
F. G. Keyes No. 3 Red Gulch, NW NW NE Sec. 16-17-28. Drlg. 800 ft.
Ohio Oil Co. No. 4 State-McCallister, Sec. 25-17-34. W.O.C. 510 ft.
C. S. Powell No. 1 Smith, NW NW NE Sec. 6-17-29. Drlg. 1,137 ft.
H. J. Steinberger No. 1 Hastie, SE NE SW Sec. 18-17-28. T.D. 147.
Adkinson Oil Co. No. 1 Brainard, SE SW SE Sec. 5-18-27 T.D. 1,250 ft.; tstg.
Farmer & Tallmadge No. 1 Hubbell, NE SW Sec. 4-18-25. S.D.O. 380 ft.
Green Bay Oil Co. No. 1-A Johnson, C SE SE Sec. 11-18-31. Mch.
Paton Bros. No. 1 Erwin, C SE SE Sec. 5-18-31. T.D. 3,077 ft.; W.O.C.
Rhodes Drlg. Co. No. 1 Swearingan, NE SE NW Sec. 14-18-31. T.D. 3,475 ft.; Prep to shoot; est. 50 B.O.P.D.


GEARED


AUTOMATIC

DON'T BE WITHOUT ONE

—for cutting off pipe. Sizes 2 to 12 inch.

"TOLEDO" Geared Cutters furnished in four sizes. 2½" to 6"; 4½" to 8"; 7" to 10"; 9" to 12". Can be split apart and pipe that is already in line can be cut off quickly. Hand feed. Straight square end cuts without burr.

"TOLEDO" Automatic Cutters furnished in two sizes. 2" to 4"; 4½" to 8". Positive scroll feed. Knives feed automatically. A part turn of a hand wheel sets the knives to feed or the quick return after the pipe is cut off.

Either type can be furnished with special bevel knives for bevelling pipe.

Try these cutters for better work.

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO, OHIO NEW YORK OFFICE, 72 LAFAYETTE STREET

"TOLEDO"
TRADE-MARK REGISTERED U.S. PAT. OFFICE

Tough...Dependable

One athlete on a team *stands out*, captures your attention, wins the cheers of the crowd. In hockey, this man seems to be everywhere at once—but you keep your eye on him, for he's got something the other players haven't got . . . he's tougher, faster, more dependable.

So it is with packings—one always stands out above the others. Among high pressure sheet packings for severe oil service, it's GARLOCK 7021 that stands out. Tough . . . dependable—GARLOCK 7021 Compressed Asbestos Sheet Packing is giving *outstanding* performance, particularly against light oil at high temperatures and super-heated steam.

Garlock 7021
COMPRESSED ASBESTOS SHEET PACKING

THE GARLOCK PACKING COMPANY
Palmyra, New York
Tulsa, Okla. Los Angeles, Calif.
Houston, Texas
In Canada: The Garlock Packing Company of Canada Limited, Montreal, Que.

Worth Drlg. Co. No. 1 Taylor, C SW SW Sec. 12-18-31. T.D. 3,600 ft.; F. 42 B.O.P.D. tstg.
Yates et al No. 1 Yates, C NW SW Sec. 6-18-30. T.D. 2,800 ft.; swb. 80 B.O. in 24 hrs.
Harvey E. Yates No. 1 Travis, NE SE SE Sec. 6-18-29. Drlg. 160 ft.
Geo. E. Robb No. 1 Cannon, C SW SE Sec. 4-19-30. Drlg. 200 ft.; last report.
Geo. E. Robb No. 1 Vandagriff, SW NE Sec. 6-19-31. T.D. 800 ft.; S.D.O.
Martin Yates, Jr., No. 1 Bowers, SW SE SE Sec. 31-19-27. T.D. 1,180 ft.; est. 25-40 B.O.P.D.; tstg.
Trojan Oil Co. No. 1 Grant, SW SW NE Sec. 33-20s-25e. Drlg. 407 ft.
C. F. Ingram No. 1 Page, NE NE SW Sec. 15-21-28. T.D. 2,978 ft.; fsg.
Barnett Oil Dev. Co. No. 1 King, C NW SE Sec. 23-26-30. T.D. 1,100 ft.; C.O.

Chaves County

Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 770 ft.; S.D. for csg.
E. J. Fisher No. 1 Foster, C NW NW Sec. 7-15-26. T.D. 1,281 ft.; S.D.O.

De Baca County

N. E. Woods No. 1 Jones, C NE SW Sec. 17-4n-20. T.D. 190 ft.; S.D.O.
James D. Ward No. 1 Summers, SE NE SW Sec. 15-4n-24e. T.D. 680 ft.; S.D.O.

Roosevelt County

Shell Pet. Corp. No. 1 Harwood, C S½ SE SE Sec. 27-7s-35e. T.D. 5,151 ft.; P.B. 4,290 ft.; tstd. 16 B.W.P. H.; S.D.O.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarito, Sec. 22-9n-1e. Drlg. below 800 ft.
Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW Sec. 10-11n-4e. S.D. 4,450 ft.

McKinley County

Pet. Products Corp. No. 5 Santa Fe, SW NE NW Sec. 1-17-9w. Cmtd. 6⅝-in. 1,604 ft.; W.O.C.
S. Dysart No. 3-A Govt., NE NW NE Sec. 14-14n-10w. Cmtd. 12½-in. 1,320 ft.; 100 ft. sat.
Pet. Products Co. No. 3 Santa Fe, NE NW Sec. 1-17n-9w. Drlg. 1,280 ft.

Rio Arriba County

Oil City Pet. Co. No. 2 Wirt-Sanchez, C Sec. 12-31-2e. M.I.

San Juan County

L. D. Seitzinger No. 1, SW SE NE Sec. 23-29n-11w. Spdg. (first report).
Continental Oil Co. No. 85-A Rattlesnake, CEL SW NE Sec. 2-29-19w. Drlg. 260 ft.
San Juan O. & G. Co. No. 2 Cassidy, NW NW SW Sec. 18-29n-11w. Drlg. 400 ft.
Kutz Deep Test, Inc., No. 1 Govt., C NW NW Sec. 28-28n-10w. Drlg. 280 ft.
Jack Amenda No. 1, NE NE Sec. 14-29n-13w. Drlg. 625 ft.
Al Greer No. 2 fee, SW SE SW Sec. 10-30-11w. Drlg. bl. sh. 830 ft.
Anna Oil Corp. No. 6 Govt., SW NE NE Sec. 33-30n-11w. S.D. 1,885 ft.; W.O. csg.; S.O. in Farmington sd. but will D.D. to Picture Cliff.
Goodrun & Vincent No. 1 Seitzinger, NE NW SE Sec. 23-29n-11w. Drlg. 680 ft.
Ted Whetstine No. 1 McGee, NW NW Sec. 20-30n-11w. S.D. 434 ft. for mat.
Bullock & Noland No. 1 Bunce, SW SE Sec. 24-29n-1w. Drlg. 1,023 ft.

COLORADO

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 303 ft.; prep. to run 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C Sec. 32-36-1w. S.D. 1,840 ft.
Axelind Oil Co. No. 1 Sec. 11-32n-2e. Drlg. below 700 ft.

Boulder County

Reynolds & Roher No. 1 Thomas, SW SW Sec. 17-1n-70w. T.D. 300 ft.; U.R. csg. for W.S.O.

Elbert County

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW Sec. 19-10s-60w. T.D. 7,600 ft.; fsg. D.P.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE Sec. 2-19s-70w. S.D. 2,460 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. S.D. 2,008 ft. for winter after W.S.O. with 5⅛-in. at 1,757 ft.

Huerfano County

J. W. Tomkins & Sons No. 2 Presser, SE SE SE Sec. 3-29s-69w. Drlg. 204 ft.

La Plata County

N. Spatter No. 1-X Bryce, SE SW SW Sec. 31-33n-9w. T.D. 2,250 ft.; U.R. 8¼-in. from 1,860 ft. to S.O.G. at 2,140 ft.

Las Animas County

Hulme-Johnston-Allison No. 1 Azar, SE SE NW Sec. 27-34s-58w. Drlg. 1,265 ft.; S.O. and G. 1,258-62 ft.

Logan County

West Plains Dev. Co. No. 1 Sheldon, SE NW SE Sec. 3-10s-55w. Spdg. delayed by weather.

Moffat County

Stanolind O. & G. Co. No. 35-SD Parkinson, SE SE NE Sec. 22-4n-92w. T.D. 3,483 ft.; cmtd. lnr.; perf. at 3,480 ft.; tstg.
Isenberg-Parker-Myers No. 1 Myers-State, NW SE NE Sec. 36-4n-103w. Drlg. below 800 ft.
C. R. Privett No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,080 ft.; U.R. 8¼-in.
MacKinnie Oil & Drlg. Co. No. 1 Coles, SW SW SE Sec. 1-3n-92w. S.D. 3,050 ft.; M.I. 6¼-in.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW Sec. 31-36s-17w. Drlg. 4,917 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 6,652 ft. in hd. sharp sh. showing considerable free oil of 39 gr. A.P.I. scale.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW Sec. 31-21s-44w. Drlg. 5,431 ft.

Pueblo County

C. E. Puckett No. 1 Barber, NW Sec. 35-21s-66w. S.D. 870 ft. for csg.
Eden O. & G. Co. No. 1 Horse Creek, SW SE Sec. 29-19s-64w. Drlg. 2,020 ft.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. Cg. 3,613 ft.

Routt County

Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NE Sec. 1-6n-86w. S.D. 1,790 ft.

WYOMING

Big Horn County

Libby-Keoughan Interests No. 1 Sheets-Govt., SE NE SE Sec. 9-55n-96w. Drlg. 2,195 ft.
A. L. Rankin No. 1 Karjajla-Rankin, C SW NW Sec. 10-54n-94w. T.D. 590 ft.; drlg. plug to D.D.
Prescott & Mileski No. 1 Govt., NE NW SW Sec. 15-1n-93w. Cmtd. 8¼-in. at 1,027 ft.; W.O.C.
Clifford S. Johnson No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. Rig; W.O. engine.
Joan Oil Co. No. 1 Howell, NE NW NE Sec. 32-55n-97w. T.D. 2,718 ft.; will install rot. to go to Madison.
John H. Thomas No. 1 Govt., SW SW SE Sec. 3-54n-94w. Drlg. 920 ft.

Campbell County

Fyre & Kreiner No. 2, CSL NW NW Sec. 6-50n-72w. Landed 5⅛-in. on bttm. at 823 ft. and S.D.

Carbon County

Sinclair-Wyoming Oil Co. has released location for No. 2-A Mahoney Unit, C SW NE Section 34-26n-88w, an east offset to its No. 3-C Mahoney, completed last October in the Tensleep for 172 bbls. per day. The Stanolind Oil & Gas Co. has an interest in the unitized area.

Sinclair-Wyoming Oil Co. No. 2-A Mahoney Unit, C SW NE Sec. 34-26n-88w. Loc. (first report).
Ohio Oil Co.-California Co. No. 7 Union Pacific-Johnson, CEL NE SW Sec. 23-21n-79w. Drlg. 3,386 ft.; base Shannon sd. 2,160 ft.
Sinclair-Wyo. Oil Co. No. 4 Mahoney, CNL NE SW Sec. 34-28n-88w. Cg. 4,532 ft. in sat. sd.
Producers Oil Co. No. 1 Lake Valley, 200 ft. CNL Sec. 14-20n-88w. S.D. 1,916 ft.

Converse County

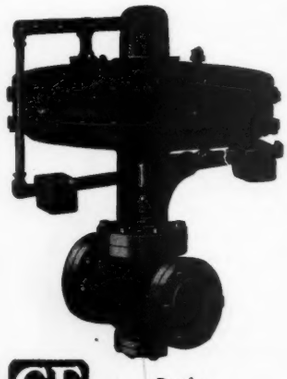
Wyore Oil Co. No. 3 Gaspar, SW Sec. 25-32n-69w. Loc.

MAXIM UNIVERSAL SILENCERS

MAXIM SILENCERS AT PHOENIX

New, but tested and proven superior to any other silencing equipment available. Built in standard weights for gasoline and oil engines, and extra heavy construction for gas engines, Maxim Universal Silencers are available for all types of engines at surprisingly low prices. Write for full information.

THE MAXIM SILENCER COMPANY
HARTFORD, CONNECTICUT DALLAS, TEXAS



CF *Duplex Vacuum Regulator*

Atmospheric Pressure Can be Maintained at All Times

ON a system discharging gas to a line under light pressure, the Fulton Duplex Vacuum Regulator will definitely prevent the pulling of a vacuum and will maintain atmospheric pressure at all times. When pressure in the storage tank falls, the valve closes. This is a valuable safeguard. Full description and prices will be mailed on request. Ask for Bulletin No. 2449.

THE CHAPLIN-FULTON MANUFACTURING CO.
28-40 Penn Ave. Pittsburgh, Pa.

REPRESENTATIVES:
WESTCOTT & GRRIS, Inc. *Sales and Service* Dallas—Tulsa
HIMELBLAU, BYFIELD & CO. 36 S. Throop St., Chicago, Ill.
Or any Jobber

Chas. Wheeler et al No. 1 Fitzhugh, NW Sec. 19-31n-71w. Drlg. r.b. 460 ft.
H. O. Emery et al No. 2 Roberts, C SW SE Sec. 2-31n-70w. Drlg. 254 ft.; S.G.
Jack Decker et al No. 1 Simonson, NW NE SE Sec. 16-32n-68w. S.D. 640 ft. for csg.
Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. T.D. 2,390 ft.; rng. 10-in. from 1,760 ft. to bttm.
Fred Bunker No. 1 Pestal, SE NE NE Sec. 32-32n-69w. T.D. 483 ft.; prep. to run csg.
New Era Fuel Co. No. 2 Mary Gaspar, CNL NW SW Sec. 25-32n-69w. S.D. 670 ft. without tstg.
Wyshawn Oil Co. No. 1 Lindley, NW SE SE Sec. 34-32n-69w. Drlg. 2,665 ft.
Blue Ridge Oil Co. No. 1, SW NW SE Sec. 29-32n-69w. Drlg. 150 ft.
Dr. Harvey No. 1 Granville-Tinnin, NE NE SE Sec. 6-31n-69w. Drlg. 270 ft.

Fremont County

Lincoln O. & G. Co. No. 3 Tribal, SW SW SE Sec. 23-1s-1e. Drlg. 390 ft.
Frank Pouppirt No. 1 Fidelity Tr., SW NE SW Sec. 27-3n-1w. S.D. 1,168 ft.
Tropic Oil Co. No. 1 Govt., C SE SW Sec. 34-27n-90w. Drlg. 3,465 ft.
Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,240 ft.
C. E. Nelson No. 8 fee, CWL NE SW Sec. 27-3n-1w. S.D. 1,200 ft.; S.O. 1,095 ft.
Frank Pouppirt No. 2, NW NW SW Sec. 27-3n-1w. Drlg. 830 ft. gr. sh.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. S.D. 1,096 ft.
Mazel Skofield No. 1, CWL NE NE Sec. 32-19n-116w. S.D. 480 ft.

Natrona County

General Pet. Corp. No. 2 State, NW SE NE Sec. 16-35n-77w. Drk.; foundations run.
General Pet. Corp. No. 1 State, NW NE SE Sec. 16-35n-77w. Cg. for second Wall Creek at 7,200 ft.

Niobrara County

There were no completions or new operations in Lance Creek. Continental Oil Co. No. 7-B Schuricht, a Sundance sand well, is near completion at 4,041 feet, total depth, where it is swabbing to clean out. Adams Oil & Gas Co. No. 1 Baker, joint with Felmont Corp., which will mark an important south extension in the Leo sand, has recovered lost drill pipe and is drilling close to the top of the objective at 5,426 feet.

Ohio Oil Co. No. 5 Rohiff, 100 ft. E of C E½ Sec. 32-36n-65w. Loc.
Continental Oil Co. No. 14 Tom Bell, C NW SW Sec. 34-36n-65w. Dk.; W.O. equip.
Continental Oil Co. No. 3 Apex-4, SE SW NW Sec. 35-36n-65w. Drlg. 2,970 ft.
Argo Oil Co. No. 9 Elliott, NW SE SE Sec. 5-35n-65w. Drlg. 3,462 ft.
Ohio Oil Co. No. 6 Leo O.P.C.-16, NW NE SW Sec. 35-36n-65w. Drlg. 3,745 ft.
Continental Oil Co. Acct. Buck Creek Oil Co. No. 7-B Schuricht, NE SW SE Sec. 6-35n-65w. T.D. 4,041 ft.; swbg. to test.
F. F. Hintze et al No. 1 Wright-Govt., NW NW SE Sec. 30-36n-63w. Drlg. 2,995 ft.
Ohio Oil Co. No. 1 Jones, SE NE SE Sec. 30-35n-62w. Drlg. 2,873 ft. in Deadwood.
J. E. Manning No. 1 Hewitt-Govt., NW SW SW Sec. 4-35n-65w. Loc.
Cow Gulch Oil Co. No. 1 MaGoon, NE NE Sec. 33-35n-64w. Drlg. 1,695 ft.; Converse zone 1,388-95 ft.
Fall River Roy. & Prod. Co. No. 1 Govt., CSL SE SE Sec. 35-40n-61w. Drlg. 1,000 ft.
H. D. Moore et al No. 1 Bergrem, NW Sec. 23-35n-63w. Drlg. 1,900 ft.
Adams O. & G. Co. No. 1 Baker, NW NE SW Sec. 8-35n-65w. Drlg. 5,426 ft.

Park County

A new operation is being started in the Oregon basin district in the Dry Creek Oil Co. No. 1 Government. It is a wildcat to the south of the South dome.

Dry Creek Oil Co. No. 1 Govt., C NE NW Sec. 16-50n-100w. T.D. 150 ft.; cmtd. 10-in.
E. J. Preston No. 1, SW SW Sec. 26-58n-98w. M.I.M.
Blue Ridge Co. No. 1 Mau, NE NE SW Sec. 25-58n-98w. Cmtd. 12½-in. 100 ft.; drlg. plug.
Stanolind O. & G. Co. No. 18 Elk-5, NW NE NW Sec. 30-58n-99w. S.D. 3,002 ft.
Resolute Oil Co. No. 2 State, C SW SW Sec. 16-57n-101w. T.D. 8,690 ft., C.D.; 6⅝-in. 8.330 ft.; drlg. plug.

Platte County

Bill Griffin et al No. 1, NE SE NE Sec. 18-30n-67w. S.D. 550 ft.

Sublette County

Texas Co.-Frontier Pet. Co. No. 1 Unit, SE SE SW Sec. 1-28-11w. T.D. 6,247 ft.; C.O.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd rnh., SE SE Sec. 31-13n-112w. S.D. 10 ft.
Progressive Oil Co. No. 1 Haddenham, C NE SE Sec. 21-28n-113w. Drlg. 832 ft.
Wyoming Pet. Corp. No. 1 Budd, C NE NE Sec. 10-29n-113w. T.D. 1,792 ft.; installing boilers to melt ice cone around dk.

Sweetwater County

Sinclair-Wyo. Oil Co. No. 81, SW NW NW Sec. 11-26n-90w. Cg. in sat. Sundance sd. at 1,997 ft.; top 1,955 ft.

Uinta County

Stove Creek Oil Co. No. 3 Govt., CWL SW NW Sec. 26-14n-119w. Drlg. 50 ft.
Stove Creek Oil Co. No. 1 Govt., NE SW NE Sec. 26-14n-119w. Drlg. 1,700 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW Sec. 26-14n-119w. S.D. 350 ft.

Washakie County

Paul Boether No. 1 Govt., SW NW Sec. 4-47n-90w. Drlg. 2,030 ft.
Frison Oil Co. No. 2 Govt., SE SW NE Sec. 24-47n-90w. S.D. 145 ft.

Weston County

Conway Oil Corp. No. 3 Govt., C NW SW Sec. 31-42n-60w. Drlg. 1,995 ft.
Krokar et al No. 1 SE SE NW Sec. 31-47n-63w. Drlg. 200 ft.
James Farrel No. 1 Govt., NE SE SE Sec. 2-44n-61w. Drlg. 74 ft.
Selby & Langford No. 1, CNL NW SE Sec. 6-46n-63w. Drlg. 100 ft.
Whedon et al No. 1, Sec. 21-46n-64w. Drlg. below 300 ft.
F. R. Diger, Tr., No. 16, SW SW NE Sec. 30-46n-63w. T.D. 1,402 ft.; recmtd. csg.
John Borophy No. 1 George, SW SE NW Sec. 26-48n-64w. T.D. 2,287 ft.; pulled 5½-in. to replace leaky joint.

MONTANA

Production of Montana fields in November as reported by the Oil Conservation Board was 394,273 bbls., a decrease of 10,562 bbls. as compared with October. Storage at the end of November was 1,534,994 bbls., a decrease of 24,010 bbls. Exports to Canada were 20,711 bbls., a decrease of 41,070 bbls.

Big Horn County

Buzetti & Corkins No. 1, NE NW Sec. 23-1s-32e. M.I.M.

Blaine County

G. R. Teeters No. 1 Stam, CSL SW SE Sec. 20-31n-18e. (Formerly R. E. O'Keefe). S.D. 860 ft. for csg.; top Eagle 630 ft.

Carbon County

Valentine M. Kirk et al No. 1 Robinson, SW SW NW Sec. 2-7s-21e. S.D. 2,040 ft.
Alex Beaton No. 1, CSL SE SE Sec. 23-6s-23e. T.D. 1,580 ft.; landed 6¼-in. on bttm.
R. C. Tarrant No. 2, SE NW Sec. 4-6s-18e. T.D. 2,880 ft.; rng. 7-in.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW Sec. 35-9s-23e. S.D. 1,810 ft.
Sha-Wha Pet Co. No. 1 Govt., SW NW NE Sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 4-6s-23e. T.D. 2,337 ft. (C.D.); C.O. to res.; will U.R. to bttm. and set csg.

Cascade County

E. B. M. Oil Co. No. 1 Betts, CSL NW SE Sec. 34-18n-4e. T.D. 1,250 ft.; prep. to res.

Choteau County

Security Pet. Corp. No. 1 Johnson, C NE Sec. 23-26n-3e. S.D. 1,991 ft.; S.D. for 6⅝-in.; Sunburst 1,935-53 ft.

Dawson County

Frank C. Hughes No. 1 fee, NW NE SE Sec. 5-14n-55w. Drlg. 1,065 ft.

Daniels County

White Tail O. & G. Co. No. 2 Wiley, NW NW NW Sec. 10-36n-50e. Drlg. 1,928 ft.

Fallon County

Montana-Dakota Utilities Co. No. 45, Unit 7, SE NW SW Sec. 25-6n-60e. Drlg. 320 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW Sec. 7-15n-20e. S.D. 1,080 ft. (C.D.); in lower Quadrant.
Emmons et al No. 5 Stocker, SW NW SW Sec. 24-22n-18e. Drlg. 950 ft.

Glacier County

Nadeau Bros. No. 1 Govt., NW SW NW Sec. 25-37n-5w. Colo. 498 ft.; 10¾-in. 513 ft.; drlg. depth not reported
Glacier Prod. Co. No. 3 Neill, SE SE NE Sec. 20-33n-5w. Drlg. 1,860 ft.
Glacier Prod. Co. No. 1 Gillard Unit, 100 ft. from N line and 1,320 ft. from W line, Sec. 29-34n-6w. Drlg. 2,555 ft.
Glacier Prod. Co. No 4 State, 2,200 ft. from N line and 1,320 ft. from W line, Sec. 16-33n-5w. Drlg. 2,380 ft.
K. D. Pardee No. 3 Tribal-179, NW NE SE Sec. 12-32n-6w. Drlg. 2,745 ft
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE Sec. 16-35n-6w. Loc.

Judith Basin County

Fletcher E. Hunt No. 1 Doven, SE NE NW Sec. 30-14n-15e. Spd. and S.D.

Park County

Ben Ryan et al No. 1 Burgess, SE SW NW Sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

H. Clark Rowland No. 1 Brundidge-Mink, SE NW Sec. 35-14n-25e. R.O.G.
Watson Oil Co. No. 1 Austed, SW NW SE Sec. 22-13n-28e. Drlg. 800 ft.
O. B. Canfield No. 2 Govt., SE NE NE Sec. 21-17-24e. S.D. 780 ft.

Richland County

W. M. Fulton No. 1 Richardson, SW SW SE Sec. 29-26n-52e. Drlg. 540 ft.; small S.W. at 435 ft.

Teton County

Zodiac Oil Co. Gulf States Oil Co. No. 1 Kellogg, NE NW NE Sec. 33-28n-5w. S.D. 1,800 ft.
Gulf States Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW Sec. 5-27-5w. S.D. 2,525 ft. until spring.

Toole County

W. M. Cassidy apparently has a commercial well in his No. 1 Phoenix, CNL NW NW Section 28-35n-4w, 2½ miles northwest of the nearest producer in the new West Kevin pool. This pool, opened in 1937 by Pfabe & Engleking No. 1 Innerberg, NW SE SE Section 26-35n-4w, is midway between the Kevin-Sunburst and Cut Bank fields. The Innerberg well flowed 100 bbls. first 24 hours through the casing after acidizing with 500 gallons. The oil in No. 1 Phoenix tested 41.3 gravity and has a paraffin base. It is green in color and has very little sulfur and is unlike either the Cut Bank or Kevin-Sunburst crude. The oil from No. 1 Innerberg also was of paraffin base and tested 38.4 gravity. No. 1 Phoenix failed to pick up either the Sunburst or Cut Bank sand and found nothing of value

(Continued on Page 88)

SAVE YOUR WELLS

WITH A

MILLER

The hero saves the homestead and gets the villain. MILLER Sand Pumps get the sand and sediment — *save your wells and increase production.*

The MILLER is made in diameters of 2½, 3, 3½, 4, 4½, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type. ¼-inch wall tubes in HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

- **BAILER BOTTOM** With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.
- **SAND BOTTOM** Used when tools are run and when well is shot to quickly remove loose material.
- **STAR BOTTOM** Used for cutting the sand loose.
- **CHISEL BOTTOM (In Pump)** With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Pages 1564-65 COMPOSITE CATALOG

MILLER ALSO DRILLING EQUIPMENT CATALOG

Sand Pump Co.

General Offices and Factory

OKLAHOMA CITY, OKLAHOMA

1524 S. E. 29th — P. O. BOX 4516 — Tel. 7-6884

Branches SAPULPA, OKLA. Tel. 341 — KILGORE, TEX. Tel. 545 — HOUSTON, TEX. Tel. PRESTON 2841

PATENTED NO. 1370340 NO. 1523004 NO. 1787390 NO. 1868628 NO. 1868629 NO. 2055687

FOR SALE BY ALL SUPPLY STORES

Memo:
Contact Atlas-Lansing for Drop Forgings that resist Corrosion and Heat.

ATLAS DROP FORGINGS

All shapes and sizes to 500 lbs.

ATLAS DROP FORGE COMPANY · LANSING, MICHIGAN

North and East Texas

By
D. H. STORMONT

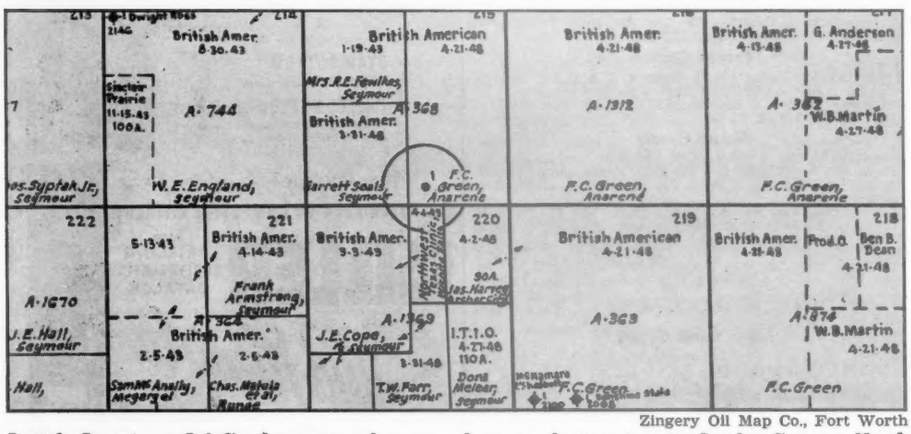
Baylor and Montague Report New Producing Areas Found

WICHITA FALLS, Tex., Jan. 9.—Discovery of two new producing areas for North Texas, one each in Baylor and Montague counties, featured a busy week in the district.

A new pool definitely was given Baylor County when British American Oil Producing Co. No. 1 F. C. Green, Section 215, T.&N.O. Survey, 9 miles east of Seymour, was reported to have pumped 362 bbls. of fluid in 23 hours, which included 60 bbls. of water, giving it a potential of slightly over 300 bbls. of oil per day. The well has been shut down to install a new control head and permanent pumping unit. It is producing from lime horizon at 2,580 feet to 2,605 feet, with a total depth of 2,635 feet. Stimulated by the discovery, Amerada Petroleum Corp. has already completed a deal for a 5,000-acre drilling block in the south part of the county, near the county line. The acreage, acquired through McElreath & Suggett of Fort Worth, is in the Upshur County School Lands Survey.

In Montague County the wildcat drilled by Rogers & Rogers and Youngblood which has been in the testing stages for several weeks, was hailed as a pool opener when it flowed 85 bbls. of oil in three hours from satdry at a total depth of 5,201 feet.

In Collins County, G. L. Pace Petroleum Corp. abandoned its No. 1 E. E. Hooper in the J. Rutherford Survey, about 2 miles east of Blue Ridge, at a total depth of 2,757 feet. Richards & Holloway and others abandoned No. 1 S. H. Rhodes, in the L. H. Bass Survey of Van Zandt County, at a total depth of 4,300 feet.



Zingery Oil Map Co., Fort Worth

British American Oil Co. has opened a new deep producing area in Baylor County, North Texas, at its No. 1 Seymour, which is estimated at about 1,000 bbls. per day

uration from 4,639-56 feet. The well is in the J. E. A. Burnett lands of the J. Lenow Survey, about a mile west of the town of Nocona in the northern part of the county. When the well first was tested it flowed 15 bbls. of oil in 15 minutes after an uninterrupted three-hour flow, apparently indicating production was increasing. The flow is believed by some to be coming from a section in the lower Bend series. It is not making any water with the oil flow and some estimate the well capable of about 1,000 bbls. per day. Deepening of a number of dry holes and shallow tests was expected following the discovery.

Cooke County

In Cooke County the first locations for the recently opened 1,800-foot Ellenberger, lower Ordovician oil pool in the northern part of the county, was staked. Trumter Petroleum Corp. made location for No. 1-B Voth, 3,000 feet west and a little south of Whitfield and others No. 2 Voth, discovery oil well. The discovery well was completed last week for 1,200 bbls. of oil per day, with pay from 1,788-93 feet. The pool received two other locations when Monte Staniforth, Jr., staked No. 1-B Voth in the N. Matson Survey and Owen M. Murray and others staked a test on the William Trenbenback lands in the J. W. Littleton Survey.

Archer County's Hull-Silk pool received an indication of a 4-mile northeast extension when Louis Sikes No. 1 H. Ford, in the T. Cecil Survey, Abstract 982, tested 500 feet of oil the first hour after perforating casing from 4,375-4,402 feet. The well has been in the testing stages for several weeks. The operator is planning to acidize the test at its present producing horizon in an attempt to complete the well. The derrick has been torn down and moved about three-quarters of a mile northeast where the operator is starting another test contracted to 4,500 feet.

EASTERN TEXAS

DALLAS, Tex., Jan. 9.—Several widespread tests, both pool extensioners and wildcats, held attention in the East Texas district. Promise of nearly a quarter-mile southwest spread to production at the Navarro Crossing pool of Houston County was seen as casing was being run for testing Humble Oil & Refining Co. No. 2 Kailey & Taylor. The well cored from 5,880-88 feet and recovered 5 feet of saturated sand and pipe was to be set on top. Previously the well found water at this level in the first hole, plugged back to 3,500 feet and drilled a 5-degree directional hole northeast. Also in Houston County, north of Grapeland, Cook & Mayo No. 1 Kolb, a wildcat test in the F. Herniger Survey, was declared a failure after 60 feet of mud was tested from the prospective producing formation from 6,096-6,100 feet. Total depth is 6,125 feet.

In the Flag Lake pool of northwestern Henderson County, Richards & Holloway increased their holdings in the field by purchasing from Tip DeArman a 20-acre lease on the east central line of the W. K. Newell Survey. The operators have also farmed out from Cities Service Oil Co. a 30-acre tract in the same survey and are planning two tests for the immediate future.

In Kaufman County, a wildcat test was started and another indicated when W. S. McGee spudded his second test in the area of Gossett. The operator drilled a dry hole in the Pritchett lands, Hendricks Survey, several months ago. The new test is in the T. A. Elliott lands, also in the Hendricks Survey. Another test by the operator is being planned on or before January 20 for the Baker Survey, in the same area.

Several abandonments were reported in the area, one each in Cherokee, Collins, and Van Zandt counties. Another failure in the Rusk area of Cherokee County was seen when J. R. Bunn and others quit their No. 1 S. W. Lang, in the Levi Jordan Survey. The wildcat was

EAST TEXAS FIELD COMPLETIONS
(One-hour tests)

Gregg County—Longview Area

Atlantic Refining Co. No. 9-B A. Tooke, 3,529-3,700 feet, 94 bbls. Davis-Smith No. 3 Mattox, 3,611-44 feet, 30 bbls. Rudco Oil & Gas Co. No. 2-A S. S. Burton, 3,612-33, 4 bbls. Sinclair Prairie Oil Co. No. 23 York, 3,542-3,642 feet, 60 bbls. Stanolind Oil & Gas Co. No. 12-C J. G. and M. Smith, 3,536-87 feet, 40 bbls.

Gregg County—Kilgore Area

C. V. Landsberry No. 24 A. Money, abandoned location. M. Nathan No. 3 W. B. Walker, 3,568-70 feet, 20 bbls. Refugio Oil Co. No. 5 M. B. Hughey, 3,489-3,546 feet, 44 bbls.

Rusk County—Joiner Area

R. Haddaway No. 2 M. E. Church, 3,754-64 feet, 45 bbls. Humble Oil & Refining Co. No. 52-A Plowman, 3,662-86 feet, 68 bbls.; No. 62-A R. E. L. Silvey, 3,698-3,727 feet, 20 bbls.; No. 64-A R. E. L. Silvey, 3,640-53 feet, 68 bbls. Ohio Oil Co. No. 54 S. H. Moore, 3,637-3,717 feet, 28 bbls. Spansco Oil No. 7 John Bell, 3,785-95 feet, 100 bbls.

Smith County—Joiner Area

J. C. Hawkins No. 3-B E. E. Moore, 3,754-55 feet, 14 bbls.

EAST CENTRAL TEXAS COMPLETIONS
(24-hour tests)

Anderson County

Byrd-Frost No. 1 I.&G.N.R.R., 5,236-5,343 feet, 115,000,000 cu. ft. gas. F.H.E. Oil Co. No. 1 First National Bank, 5,334-48 feet, 78 bbls. Hunt Oil Co. No. 2 A. Cartmel, 5,328-45 feet, 88 bbls.

Collins County

George L. Pace No. 1 E. E. Hooper, dry and abandoned at 2,757 feet.

Titus County

Humble Oil & Refining Co. No. 2 Clarke fee, 4,268-4,322 feet, 180 bbls.

Van Zandt County

Goddy-Richards & Holloway No. 1 S. H. Rhodes, dry and abandoned at 4,300 feet.

NORTH TEXAS COMPLETIONS

Archer County

N. Aganos No. 14 J. S. Bridwell, 940-47 feet, 110 bbls. Danson Oil Co. No. 9 R. Campbell, 998-1,010 feet, 10 bbls. A. A. Horwitz No. 9 S. M. J. Benson, temporarily abandoned location. G. H. Staley No. 9 Anna Mangold, 3,812-65 feet, 600 bbls.

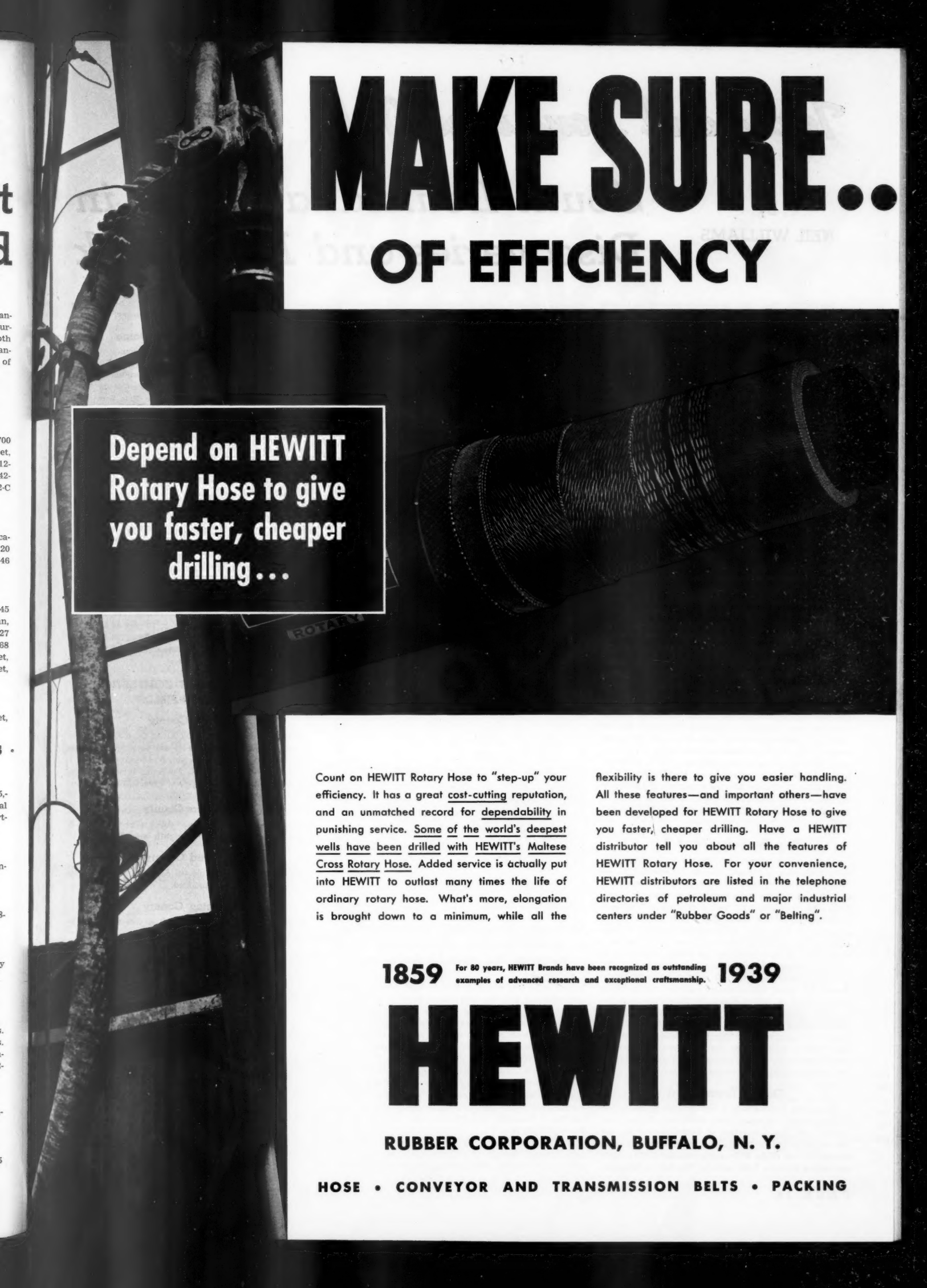
Cooke County

Kingery Brothers and others No. 1 Joe Fisher, 914-41 feet, 54 bbls.

Clay County

Bridwell Oil Co. No. 24 T. C. Thornberry, 1,079-1,115

(Continued on Page 90)



MAKE SURE..
OF EFFICIENCY

Depend on HEWITT Rotary Hose to give you faster, cheaper drilling...

Count on HEWITT Rotary Hose to "step-up" your efficiency. It has a great cost-cutting reputation, and an unmatched record for dependability in punishing service. Some of the world's deepest wells have been drilled with HEWITT's Maltese Cross Rotary Hose. Added service is actually put into HEWITT to outlast many times the life of ordinary rotary hose. What's more, elongation is brought down to a minimum, while all the flexibility is there to give you easier handling. All these features—and important others—have been developed for HEWITT Rotary Hose to give you faster, cheaper drilling. Have a HEWITT distributor tell you about all the features of HEWITT Rotary Hose. For your convenience, HEWITT distributors are listed in the telephone directories of petroleum and major industrial centers under "Rubber Goods" or "Belting".

1859 For 80 years, HEWITT Brands have been recognized as outstanding examples of advanced research and exceptional craftsmanship. **1939**

HEWITT

RUBBER CORPORATION, BUFFALO, N. Y.

HOSE • CONVEYOR AND TRANSMISSION BELTS • PACKING

Texas and Louisiana Gulf

By
NEIL WILLIAMS

South Louisiana Leads in Discoveries and New Work

HOUSTON, Tex., Jan. 9.—Developments in Coastal Louisiana continue to keep this sector in the limelight of Gulf Coast activities, as new sand discoveries, important wildcat locations and probable pool openers were reported the past week.

In St. James Parish, Shell Petroleum Corp. No. 1 Shexnayder, Section 38-12s-15e, southeast of Donaldsonville, was being drill-stem tested after 14 feet of sand, with streaks of shale showing oil, was recovered in a core at 7,959-73 feet, total depth. This test is located on a geophysical block of several thousand acres and prospects of opening production are considered good.

Texas Co. No. 1 Wax Bayou, Bateman Lake field, St. Mary Parish, has been completed for a distillate producer, opening production from a shallower sand. The well was shut in after it made an initial gauge of 51 bbls. of distillate flowing through a 10/64-inch choke through perforated casing at 8,650-60 feet. This test was drilled to 11,185 feet, and final completion was made after it failed to produce from the discovery horizon below 10,000 feet.

Two oil wells were added to the University field, East Baton Rouge Parish, by William Helis. No. 4 Duplantier, Section 65-7s-1w, flowed 350 bbls. daily through a three-sixteenths inch choke from sand topped at 6,473 feet and bottomed at 6,481 feet, while No. 2 Harry Nelson, Section 36, flowed 346 bbls. through the same size choke. Sand in this well was topped at 6,459 feet and casing was cemented at 6,460 feet, with the hole bottomed at 6,480 feet.

In the Golden Meadows field, La Fourche Parish, Texas Co. recompleted No. 1 LaTerre for an initial production of 189 bbls. per day through a three-sixteenths inch choke. The casing was reperforated at 8,500-10 feet, and flowing pressure on the tubing was 2,700 pounds. The well was originally completed at 8,500-20 feet for an initial production of 828 bbls. of oil, but salt water broke in. The well was killed and recompleted. The company has two active tests in that area and both are reported to be checking lower than the discovery well. No. 1 L.L.&E., Golden Meadows, Section 77-19s-21e, is drilling in sand and lime below 7,232 feet, while No. 1 State-Catfish Lake, in the same section, is bottomed at 8,205 feet, with the drill stem stuck.

New Sands in Grand Bay

New sand discoveries were opened in the Grand Bay field, Plaquemines Parish, and at Timbalier Bay, La Fourche Parish, by Gulf Oil Corp. At Grand Bay No. 1 State flowed 720 bbls. daily through a quarter-inch choke from sand topped at 7,137 feet, and cored to 7,147 feet, total depth. Previous production was from sand at approximately 6,100 feet. At Timbalier Bay No. 3 State cored oil sand at 6,780 feet, and was completed at a total depth of 6,795 feet, for an initial production of 290 bbls., flowing through a three-sixteenths inch choke.

New wildcat activity was reported for St. Mary, Iberia and West Baton Rouge parishes. Northeast of Morgan City, St. Mary Parish, Phillips Petroleum Co. is preparing to spud No. 1 Whitney National Bank, in Section 13-15s-12e. South of New Iberia, Iberia Parish, Texas Co. has started drilling No. 1 Petit Anse in Section 59-13s-6e, while in West Baton Rouge Parish Humble Oil & Refining Co. has rig up for No. 1 S. A. Levert, near the Mississippi River in Section 5-8s-12e.

On the Texas Coast

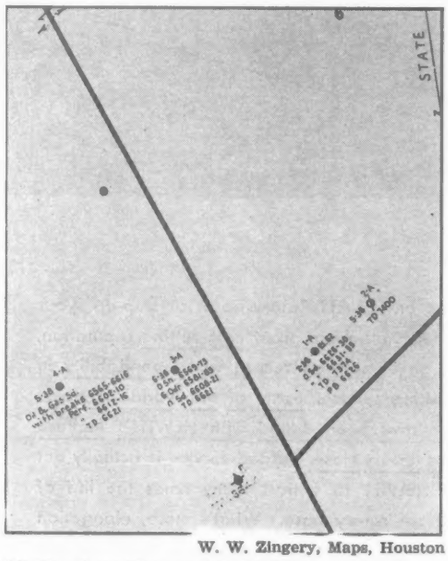
Along the Texas Coast, a new producing horizon in the McCroskey (Armour) field, Matagorda County, was opened with the completion of Pierce Estate No. 6-A fee, which flowed an initial gauge of 175 bbls. through a one-eighth inch choke with tubing pressure 1,675 pounds and casing pressure 2,400 pounds. The hole is bottomed at 7,197 feet and casing was perforated at 7,191-96 feet. The well is several hundred feet north of production and is apparently separated from the 6,600-foot production by a faulted condition.

In Jackson County, the West Ranch field, was extended a quarter-mile west with the completion of Magnolia Petroleum Co. No. 6-A West, which flowed 298 bbls. daily through a three-sixteenths inch choke. Production was obtained by perforating the casing in sand at 5,083-5,127 feet.

H. M. Harrell and others No. 1 Ehrhardt extended gas production in the Bammel field, Harris County, approximately a half mile east as the well is flowing an unestimated volume of gas, while cleaning out, from sand logged at 6,170-90 feet. The hole was drilled to 6,205 feet, and 5½-inch casing cemented on bottom. The well is east of the same operators No. 1 Polly, completed several months ago as the first oil well in the field.

Clear Lake Dry Hole

The Clear Lake field, Harris County, was defined to the southeast with the abandonment of Humble Oil & Refining Co. No. 2-A J. M. West fee, a half mile southeast of the nearest producer in the George McKinstry Survey. The hole was quit at 6,070 feet, with no showings reported. This test was started by West Production Co. and was taken over by Humble when it purchased the company's holdings which included all acreage in the field as well as other acreage in the Friendswood field. The abandonment of No. 2-A West defines the field to the southeast and northeast.



W. W. Zingery, Maps, Houston

McCroskey (Armour) field, Matagorda County, showing location of Pierce Estate No. 6 fee which has opened a deeper sand

In the Friendswood field, Harris County, Humble Oil & Refining Co. abandoned two tests further defining the west and southwest sides of the field. No. 1 Johnson, Perry and Austin Survey, was quit at 6,145 feet, and No. 1 Messimer, a southwest edge test, was abandoned at 6,096 feet.

In the Anchor area, George Robinson Survey, Brazoria County, Humble Oil & Refining Co. No. 1 Masterson was abandoned after running an electrical survey to the total depth of 10,033 feet. The rig is being moved north for No. 1 Yates in the S. Marsh Survey.

Deep Test on Boling Dome

On the north flank of the Boling dome, Wharton County, R. B. Fields is rigging up No. 1 J. F. Barker, a projected deep test in the John Huff League. The well is on a farmout lease from the Shell Petroleum Corp., and is expected to be drilled to the Frio formation. Prospects of production around the flanks of this dome are considered good as a result of a deep test drilled by Texas Co. on the southwest flank which is showing for a gas well at a plugged-back depth of 5,700 feet.

Interest in the League City field, Galveston County, is centered on Phillips Petroleum Co. No. 1 Patton, northeast of production, which is coring below 9,100 feet, after coring sand with an oil showing at 9,019-24 feet. One-half mile east of the discovery well, George Echols No. 1 Maco Stewart is coring below 9,200 feet in hope of picking up the deep sand recently opened by Midstates Oil Co. The Echols test cored salt water in the discovery horizon.

In the Rosslyn area, approximately 3,500 feet due east of the Fairbanks field, Harris County, Housh & Thompson No. 1 Yerkes is cleaning out through a 7/64-inch choke, making an estimated 6 bbls. of fluid per hour with tubing pressure 1,650 pounds and casing pressure 2,500 pounds. Perforations were made in 20 feet of sand bottomed at 6,835 feet. Sinclair Prairie Oil Co. No. 2 Goodykoontz is building storage to make a potential test after perforating casing at 6,820-42 feet.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Hastings field: Stanolind Oil & Gas Co. No. 1-A Moore perforated casing 6,074-83 feet, 600 bbls., quarter-inch choke. Old Ocean field: Harrison & Abercrombie No. 1 McDonald, sand 9,953-98 feet, 250 bbls., various chokes. West Columbia field: M. Hogg No. 5 fee, 6,215 feet, abandoned.

Chambers County

Turtle Bay field: Stanolind Oil & Gas Co. No. 6-B Silva, 6,598 feet, 114 bbls., one-eighth inch choke.

Fort Bend County

Thompson field: Humble Oil & Refining Co. No. 19 Lockwood, 3,035 feet, abandoned.

Galveston County

High Island field: Stanolind Oil & Gas Co. No. 4-B Cade, 4,782 feet, abandoned.

Jackson County

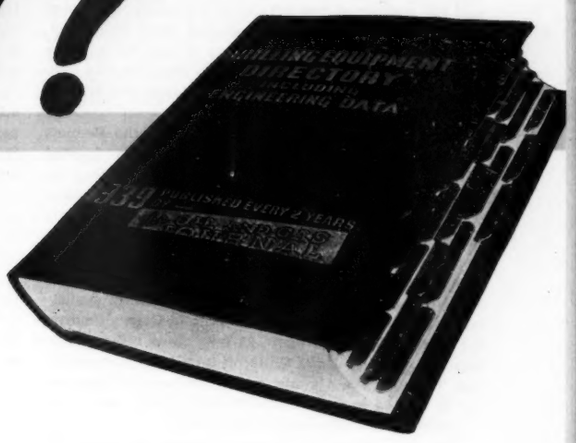
West Ranch field: Magnolia Petroleum Co. No. 6-A West, sand 5,083-5,127 feet, 298 bbls., three-sixteenths inch choke.

Harris County

Clear Lake field: Humble Oil & Refining Co. No. 2 J. M. West, 6,070 feet, abandoned. Fairbanks field: Amerada-Stanolind Oil & Gas Co. No. 4 Davis, perforated casing 6,820-24 feet, 135 bbls. one-eighth inch choke. Amerada-Stanolind Oil & Gas Co. No. 2 Farnsworth, perforated casing 6,845-51 feet, 97 bbls. quarter-inch choke. Amerada-Stanolind Oil & Gas Co. No. 3 Silberger, perforated casing 6,840-59½ feet, 137 bbls. one-eighth inch choke. Tomball field: Humble Oil & Refining Co. No. 11 Quilter, 5,560 feet, 281 bbls., quarter-inch choke. Friendswood field: Humble Oil & Refining Co. No. 1

(Continued on Page 88)

"JOURNAL"? "DIRECTORY"?



Here's a "natural" if we ever saw one. Several weeks ago we inserted a double page ad in the Journal concerning the Drilling Equipment Directory. A coupon, included in the ad, asked readers, who qualified, to "send for a copy of the Directory". Hundreds of replies were received immediately, and more continue to come in daily.

There is only one answer to be derived from such outstanding results, which is: The Journal has proved again that it has a great reader interest, and that these readers are very anxious to obtain a copy of the Drilling Equipment Directory.

Now, just who are these men who have written for a copy of the Directory? Well, this is another enlightening story, too. For the majority of the hundreds of requests are from men in the field who have authority to buy or who influence the purchase of drilling equipment.

This, coupled with the fact that most of the leading manufacturers already have signed contracts for space in the Directory, is evidence of overwhelming success for the Directory. Therefore, it is important that you reserve your space now. The Directory will be published only every two years. If your copy isn't received before February 1st, it will be impossible for us to represent you in the Directory before 1941. So write today. Ask for full particulars!

Published by

The Petroleum Publishing Company

211 So. Cheyenne St. Tulsa, Oklahoma

Publishers of The Oil and Gas Journal

Only

19 DAYS UNTIL CLOSING DATE OF THE DIRECTORY

Advertising forms are scheduled to close February 1st. Copy is due on this date so as to meet our distribution schedule of April 1st. So we'll appreciate receiving your copy early!

West, Central and Panhandle Texas

By
D. H. STORMONT

Staking Outpost Locations, Wasson and Bennett Pools

FORT WORTH, Tex., Jan. 9.—Staking of outpost locations to both the Wasson pool and the Bennett pool and the staking of two offsets to a recently completed outpost to the Ordovician producing Sand Hills pool, featured the week's developments in the West Texas district. West Central Texas received two new pool indications, both in Young County, to highlight the activity in that area.

Two southern outposts were staked to the Bennett pool of Yoakum County. Shell Petroleum Corp. located its No. 1 W. S. Hodges in Section 698, about midway between the pool proper and the J. E. Mabee extension well. Honolulu Oil Corp. located its No. 10-695 Bennett in Section 695, about a quarter mile south of the field.

A new outpost for the Wasson pool of Gaines County was staked by Shell Petroleum Corp. at its No. 1 Brand, section 37, Block AX, P.S.L. Survey, about three-quarters of a mile north of the field. Also in Gaines County, a flow of 143 bbls. of oil in 24 hours was reported for Adams & Bradley No. 1 Crain on its official completion test. The well is a 3½-mile north extension to the field and is located in Section 261, Block G, W.T. Survey. It is bottomed at 5,286 feet.

Two wildcat tests in Cochran County attracted considerable attention during the past week. Texas Co. No. 1 Boyd, Labor 25, League 38, a possible 1¼-mile extension to the Duggan pool, was reported to have flowed 175 bbls. of oil in 24 hours following acid treatment. The well is bottomed at a plugged-back total depth of 5,086 feet. Also in Cochran County, T. G. Shaw No. 1 Carrie Slaughter Dean, wildcat test 2½ miles northwest of the Wiggins & Hyde No. 1 Dean, discovery well of the Dean area, is drilling below 3,840 feet after being placed about 69 feet higher structurally than nearby tests.

In Stonewall County's Carlisle pool, discovered last August by A. G. Swanson, Carl Shoults and H. H. Adams, a block of 8,000 acres out of the original block of 13,000 acres has been sold to W. I. Southern, Inc., for a reported consideration of $90,000. The second test for the area, No. 2 Carlisle, has been spudded in Section 293, Block D, H.&T.C. Survey, and is a northwest offset to the discovery well. The new test is contracted to 5,500 feet.

Southern Basin Area

Two new outposts have been staked by Gulf Oil Corp. in the Sand Hills Ordovician producing area of western Crane County. Gulf staked an offset to its recently completed No. 9 Waddell, on the Waddell Ranch land, which will be the company's No. 10 Waddell, in Section 8, Block 27, P.S.L. Survey. As a quarter-mile east offset to this new test, the corporation staked its No. 16 Tubb, also in Section 8, Block 27. Gulf No. 9 Waddell opened a large territory for development on the southeast side of the field when it was recently completed for a good well.

In the Goldsmith pool of Ector County, Gulf Oil Corp. staked eight new locations during the week. The company located its Nos. 152 to 159 Goldsmith, all on the Goldsmith lease and in Block 44, T.&P. Survey. Most western test for the southern portion of the pool was included in the locations. It was No. 159 Goldsmith, staked in Section 21, as a west offset to the Gulf No. 123 Goldsmith, completed for an initial of 2,392 bbls. per day.

WEST CENTRAL TEXAS

Jones County, for another week, held most of the attention in the West Central Texas area as three new wildcat tests were staked and the deep horizon at Noodle Creek and the newly opened Avoca Townsite pool received new activity.

A wildcat test about 1½ miles west of the Avoca Townsite pool was assured when J. G. Choate leased the east 160 acres of the Ida Crow farm in Section 9, D.&D. Survey. A new King sand test was announced for the county by R. B. Farris. Location is on the Beasley land, W. T. Evans Survey, south of Phantom Hill. The other new test was the R. R. Carroll No. 1 G. Henderson, Subdivision 3, League 359, Goliad C.S.L. Contract depth is 3,500 feet and the test is about 6 miles south of Hamlin.

The wildcat test drilled by Fred Browning in the school yard of the Avoca townsite is showing 75 to 85 per cent salt water with a little oil, while swabbing from saturated lime at 3,287-3,305 feet. Operators are seeking to locate the source of the water encroachment. This is a half-mile west outpost to the Avoca Townsite pool.

Pushing the deep production of the Noodle Creek pool of Jones County 2¼ miles to the west. Humble Oil & Refining Co. is swabbing its No. 1 C. A. Bickley, Section 48-18, T.&P. Survey. The test was deepened from 2,477 feet where it had been producing since 1929. The well is reported to have flowed by heads from a zone of saturation from 3,107-09 feet.

Akard Pool

Offsetting the discovery well by Hedrick Oil Co., completed several weeks ago in the G. Martinez Survey of Jones County, D. H. Bolin encountered saturation in his No. 1 Morrison Estate, in the D. T. Bruce Survey. The pool has been named the Akard pool after the land owner under the discovery well. The offset test has drilled oil sand from 2,202-28 feet. Hedrick Oil Co. has a third test for the new pool at its No. 1 Morrison, west offset to the pool opener.

Possibility of two new oil-producing areas in Young County was seen when two wildcat tests near the town of Graham encountered oil showings. C. A. Lupton No. 1 Crouch began flowing by heads after drilling a saturated section from 3,865-3,960 feet, total depth. The well has been shut down for acid treatment. It is in the Graham city limits and in the I.&G.N. Survey. The other possible pool opener, Groves & Braden No. 1 Clark, in the Newhaus Survey, about 4½ miles west of Graham, began flowing from saturated lime at 3,850 feet, total depth. It is still being tested by the operators to decide its commercial possibilities.

In Stephens County, expansion to the new pool opened last summer by G. Willard Rich in the Andrews lands was seen when his second test, No. 2 Andrews, a quarter-mile east of the discovery, found the Lake sand at 3,658-59 feet and has run casing for a test. It is in Section 39-7, T.&P. Survey.

Rowan & Nichols of Fort Worth spudded a new deep Taylor County wildcat in the W. W. Martin lands about 2 miles west of Caps and in the Saucedo Survey. Operators will test the sand at 3,150 feet, and if it fails to produce the test will be deepened to the 3,900-foot horizon.

WEST TEXAS COMPLETIONS
(24-hour tests)

Andrews County

Humble Oil & Refining Co. No. 54 Means, 4,500-10 feet, 1,681 bbls. Anderson & Prichard No. 1 Cowden, 4,181-4,290 feet, 981 bbls. Anderson & Prichard and Osage Drilling Co. No. 1 University, dry and abandoned at 4,467 feet.

Culberson County

Preston W. Lewis No. 1 Niehaus, dry and abandoned at 3,507 feet.

Ector County

Atlantic Refining Co. and Skelly Oil Co. No. 3-C University, 3,490-3,640 feet, 1,092 bbls. Broderick & Calvert No. 16 H. C. Foster, 4,180-4,268 feet, 824 bbls. Atlantic Refining Co. No. 5-A Johnson, 4,120-4,240 feet, 321 bbls. W. H. Dunning, Jr., No. 1-D Cummins, 4,223-80 feet, 231 bbls. Gulf Oil Corp. No. 145 Goldsmith, 4,168-88 feet, 924 bbls.; No. 146 Goldsmith, 4,181-4,201 feet, 364 bbls.; No. 148 Goldsmith, 4,156-95 feet, 748 bbls. Blackstock Oil No. 1-B TXL, 4,005-4,175 feet, 2,496 bbls. J. E. Mabee No. 4 Paul Moss, 4,063-4,191 feet, 2,591 bbls.

Gaines County

Continental Oil Co. No. 1-51 A. L. Wasson, 4,895-4,988 feet, 1,528 bbls. Carter-Continental No. 6 A. L. Wasson, 4,920-76 feet, 1,432 bbls. Adams & Bradley No. 1 Crain, 5,274-86 feet, 143 bbls.

Hockley County

Texas Co. No. 4 Slaughter, 4,925-85 feet, 477 bbls.

Howard County

Magnolia Petroleum Co. No. 3 Hyman-Chalk, 2,760-2,907 feet, 1,464 bbls. Moore Brothers No. 1-C TXL, abandoned location.

Pecos County

Superior Oil Co. No. 7 Iowa Realty Co., abandoned location. Alexander No. 1 Yates, 1,670-1,717 feet, 16 bbls.

Reeves County

Ohio Oil Co. No. 1 Popham, dry and abandoned at 5,985 feet.

Ward County

Humble Oil & Refining Co. No. 20 Richter, 2,880-2,925 feet, 309 bbls. Columbia Oil & Gas Co. No. 4-E Johnson, 1,910-2,005 feet, 180 bbls.

Winkler County

Bert Fields No. 2-D Pure-Cowden, 2,710-3,007 feet, 305 bbls. Magnolia Petroleum Co. No. 203 Walton, 3,095-3,170 feet, 325 bbls. S. W. Richardson No. 1-A Brashara, 3,313-4,019 feet, 124 bbls.

Yoakum County

Shell Petroleum Corp. No. 2-C Baumgart, 4,875-5,120 feet, 1,104 bbls.

WEST CENTRAL TEXAS COMPLETIONS
(24-hour tests)

Brown County

Titsworth & Howell No. 1 Howell, 1,190-1,202 feet, 19 bbls. Whitesides & Rodgers No. 3 Newton, 1,204-28 feet, 75 bbls.

Callahan County

Hughes No. 1 Cook-Jordan, 4,346-4,440 feet, 30 bbls. Warren & Kleiner No. 2-A Clark, 730-38 feet, 32 bbls.; No. 3-A Clark, dry and abandoned at 832 feet.

Coleman County

Brannon & Murray No. 1 Dibrell, 3,152-98 feet, 51 bbls. Graves No. 1 Gillespie, dry and abandoned at 2,380 feet. Hart & Son No. 1 Sanderson, dry and abandoned at 1,352 feet.

Eastland County

Hickok Production Co. No. 1 Penn, dry and abandoned at 4,150 feet. Reeves No. 3-B Downtain, 1,479-89 feet, 15 bbls.

Palo Pinto County

Palo Pinto Oil & Gas Co. No. 24 Strawn Coal Co., 3,065-75 feet, 428,000 cu. ft. of gas.

Jones County

Condor Petroleum Co. No. 20 Sayles, 1,968-75 feet, 354 bbls. Danciger Oil & Refining Co. No. 1 Peterson,

(Continued on Page 91)

North Louisiana, Arkansas

By GEORGE WEBER

Wildcat in Lafayette County Has Oil and Gas Showings

SHREVEPORT, La., Jan. 9.—Lafayette County's current important wildcat, Shell Petroleum Corp. and Ohio Oil Co. No. 1 Warren, C SE SE Section 13-16-24, this week topped the Buckner formation at 6,920 feet. The test was cored to a total depth of 7,190 feet to what is believed to be the top of the Smackover lime, and although core recovery was very poor in the soft formation, 2 feet of core, from about 7,179-80 feet showed gas and oil saturation. Operators are preparing for a drill stem test, which will stand out as the most important development of the week, if successful.

Drilling is active in the Shreveport or Cross Lake field, which last week added an important northeast outpost to extend the proven acreage considerably. The outpost well is showing an improved production record, with greatly reduced gas-oil ratio.

A week of routine drilling brought few important developments to the tristate area. The Cotton Valley field of Webster Parish, Louisiana, figured in the most interesting well completion late in the week. A northwest edge test, located in a northeast offset position to the second Bodcaw oil producer in the field, found a good section of Bodcaw sand saturation and was brought in for a gas and distillate well, indicating a flattening on the northwest section of the structure. This tendency to flatten has previously been uncovered in the northeast and southwest sections of the large field, requiring revision of the contour picture of Cotton Valley.

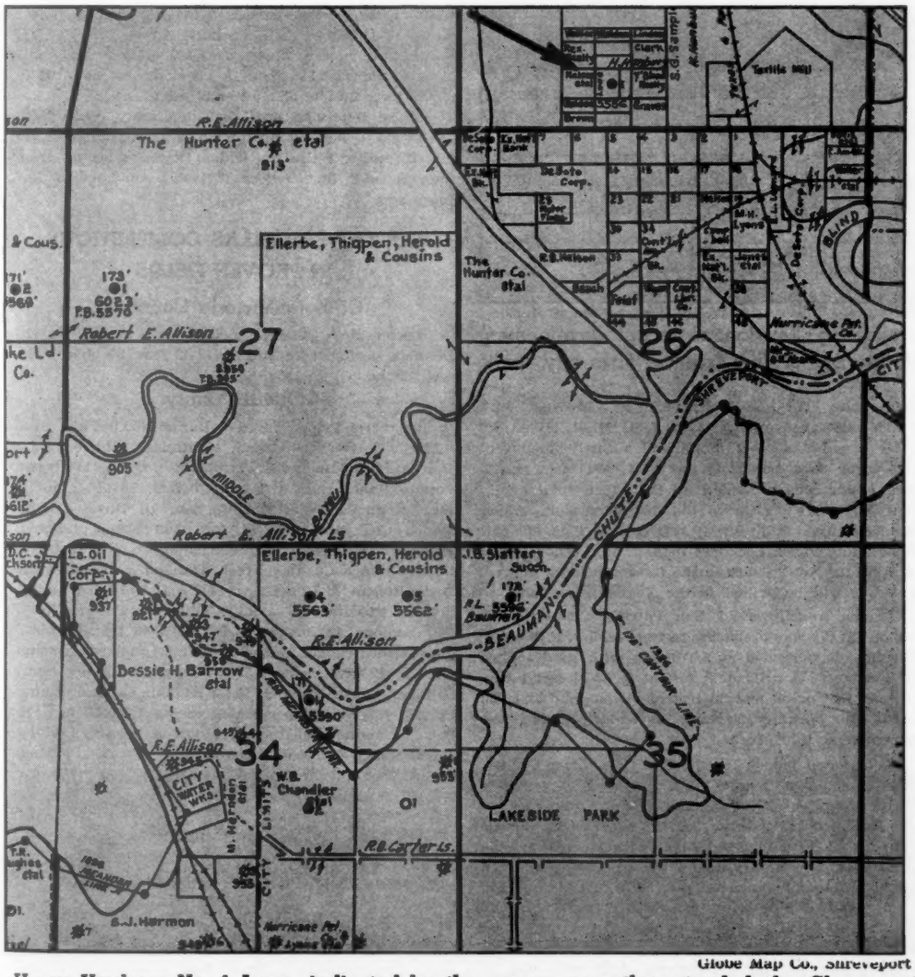
The Magnolia field of Columbia County, South Arkansas, promises to become one of the most active drilling pools in that state, as a number of new locations were staked this week. Nearby, the new pool recently opened by Tide Water-Seaboard No. 1 Beene, has been given the official name of Atlanta. It was previously referred to as the Beene pool.

A number of deep wildcats round out the list of interesting tests under way in North Louisiana and Arkansas, the principal tests being drilled in Webster, Bienville and Madison parishes, in North Louisiana, and in Lafayette County, Arkansas.

Cotton Valley

Late this week, Ohio Oil Co. completed No. 8 Sydney Heirs, a northwest edge test in the Cotton Valley field. The well, located in the southwest corner of the SW SE Section 16-20-10, is a northeast offset to North American Consolidated Oil Co. No. 1 Burrows. The latter well was completed several months ago as the second Bodcaw oil producer in the field. The Ohio well, however, cored the D sand at 8,482-98 feet, and the Bodcaw sand at 8,588-8,622 feet, and was completed in the Bodcaw for an initial production of 315 bbls. in 14 hours through a three-fourths inch choke. The gas oil ratio is estimated at 10,000 to one, and the well is making distillate which runs about 2 degrees lower in gravity than the production in the remaining gas-distillate wells.

The same company's No. 51 Bodcaw, Account 2, which was to have been plugged back to the D sand for a production test, was, instead, completed in the Bodcaw sand for 190 bbls. per day on a 1-inch choke. The well is in the northeast corner of Section 15-21-10, and is a north outpost test. The Bodcaw sand has tightened up considerably in that section and both gas and distillate production is far below the average for the field.



Globe Map Co., Shreveport

Harry Hanbury No. 1 Lowe, indicated by the arrow, recently extended the Shreveport field over 2 miles to the northeast. The operator is planning an offset test to the producer, which is one of the best wells yet completed in the field

Production by Pool

Estimated daily gross production all companies week ending January 6:

NORTH LOUISIANA

	Barrels
Bellevue	715
Caddo light	4,150
Caddo heavy	2,575
Converse	515
Cotton Valley heavy	95
Cotton Valley light	*10,115
Cross Lake	1,810
De Soto and Red River	1,200
Elm Grove	240
Haynesville	2,765
Holly	95
Homer	2,650
Lisbon	8,605
Pleasant Hill	90
Rodessa	29,080
Sarepta-Carterville	†385
Sligo	1,205
Sugar Creek	250
Urania	2,640
Zwolle	2,540
Total	71,720

SOUTH ARKANSAS

Buckner	1,560
Champagnolle	1,700
El Dorado	1,755
Lisbon	250
Miller County	345
Nevada	610
Rodessa	5,445
Schuler	17,520
Smackover light	1,975
Smackover heavy	15,350
Stephens	525
Troy	980
Urbana	1,100
Village	1,450
Total	50,565

Texas side of Rodessa field, 30,425 bbls. daily.
*4,435 bbls. is distillate.
†100 bbls. is distillate.

Webster Wildcats

Two deep tests in Webster Parish are the subjects of current interest. Magnolia Petroleum Co. No. 1-C Pardee, a deep flank test in the shallow Carterville field of northwest Webster Parish, followed a 140-quart shot at 5,930-86 feet with 5,000 gallons of acid when the test swabbed dry with a slight show of oil and gas. Operators were fishing for a swab line at the end of the week.

In the Sibley area, in the southeast section of the parish, Union Producing Co. No. 1 Walker Unit this week cored 5 feet of medium porous oolitic lime with a show of oil at 5,848-54 feet, and a drill stem test in that section failed. The hole was found to be off 3½ degrees, and operators have plugged back to 6,200 feet to straighten hole.

In Bienville Parish, Arkansas-Louisiana Gas Co.

(Continued on Page 90)

Southwest Texas District

By
F. L. SINGLETON

Seadrift, Calhoun County, May be First Pool in 1939

CORPUS CHRISTI, Tex., Jan. 9.—Hiawatha Oil & Gas Co. No. 2 Roemer, a wildcat, located on the Seadrift prospect, Calhoun County, loomed as Southwest Texas first discovery of the year as tubing was being run for completion following a preliminary test in which the well flowed an estimated 15 bbls. of fluid per day through open casing, of which 15 per cent was 40-gravity oil. This is the second test drilled by the company in that area. It is in the J. J. Ogsberry Survey, about 1,400 feet north of No. 1 Roemer, a dry hole. No. 2 Roemer reached a depth of 10,015 feet and a series of production tests at intervals from 7,200 to 8,400 feet, showed unfavorable results. The present showing is from perforated casing at 7,832-53 feet, and additional perforations may be made in view of the low gas pressure.

Union Producing Co. No. 1 Brown, in the Agua Dulce field, Nueces County, which was drilled to a depth of 13,723 feet, has been plugged back to 6,885 feet, and the casing was to be perforated for a production test at 6,850 feet. Little hope is held for the well making a producer at that level in view of the fact the core record of that section was unfavorable, and final completion is expected to be made at a higher level.

Jim Wells Wildcats

The Frio-Vicksburg trend in Jim Wells County gained two more wildcat locations, made by H. H. Howell and others for No. 1 and No. 2 Wright, about 10 miles north of Alice. The wells are located on a block of approximately 5,000 acres with various major and independent companies holding protection acreage. The first test is located in the Ross M. Bridges Survey, and will be drilled to a depth of 6,700 feet while the second test is in the S.A.&M.G. Survey No. 95, and will be drilled to a depth of 3,800 feet. In the southern part of the county and located near the town of La Gloria, Magnolia Petroleum Co. No. 1 Maun is drilling below 6,300 feet, with no further showings reported. This test is credited with having cored three distillate sands between 5,000 and 6,000 feet.

In the Riverside area, Nueces County, Heep Oil Corp. and others are moving in materials for No. 1 G. W. Smith, in tract No. 9, S. E. Waller subdivision in the Jose Vicente Lopez De Herra grant, about 1½ miles southwest of Seaboard Oil Co. No. 1 Wilson which blew out and cratered several weeks ago. This will be the third test in the area. In the same county and located a half mile southeast of production in the West Saxet field, Carlos Oil Corp. No. 1 Vetters is testing a showing for a gas well. The hole is bottomed at 4,053 feet, and the well is flowing through perforated casing at 4,047-49½ feet.

Three more oil wells were added to the active McCampbell field in Aransas and San Patricio counties. Atlantic Refining Co. No. 1 Franks flowed 500 bbls. per day through a three-sixteenths inch choke from perforated casing at 7,198-7,204 feet. Tom Graham No. 1 Hoffman was flowing oil after perforating at 7,129-33 feet, while Corgey & Grote No. 1 McCampbell flowed 498 bbls. daily through a three-sixteenths inch choke. The hole is bottomed at 7,135 feet.

In the Longhorn Field

The newly opened Longhorn field, Duval County, received its second producer as Hiawatha Oil & Gas Co. No. 6 Miller flowed 192 bbls. daily through a 5/32-inch choke. The hole is bottomed at 4,913 feet, with 7-inch casing cemented at 4,909 feet. M. M. Miller No. 1 fee tested 2,250 feet of oil and a small amount of salt water on a drill stem test at 4,904-11 feet and 7-inch casing was cemented at 4,911 feet, total depth. Both wells are offsets to the discovery well. Along this same trend and midway between the Palagana salt dome and Thomas Lockhart field, J. W. Cosner staked location for No. 1 Cantu in the Geraro Briones Survey. The test will be drilled to the Yegua formation.

In the Angelita field, San Patricio County, Wellington Oil Co. was preparing to test No. 5 J. F. Welder. The hole is bottomed at 5,376 feet with sand topped at 5,362 feet. A drill stem test at 5,368-74 feet recovered 90 feet of oil and 30 feet of oil-cut mud and 350 pounds of working pressure. Seven-inch casing was cemented at 5,367 feet.

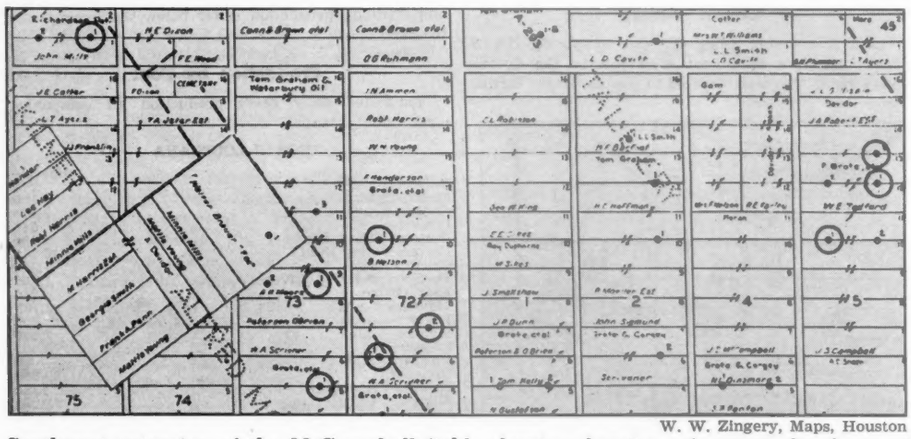
A major extension for the Sun field, Starr County, was indicated as Sun Oil Co. prepared to complete No. 1 Montalvo, 1 mile northwest of production in the Juan Jose Sais Survey, Share No. 9. The hole is bottomed at 5,131 feet and 7-inch casing was cemented on bottom preparatory to testing at 4,756-4,880 feet. A 15-minute drill stem test at 4,756-79 feet showed 150 feet of gas-cut mud with no pressure. Sand with an oil odor was cored at 4,828-48 feet, but a drill stem test failed. Broken sand showing oil was cored at 4,856-80 feet and on a 20-minute drill stem test 75 feet of oil was recovered. Salt water sand was cored in the Vicksburg formation at 4,997-5,017 feet and a drill stem test in that section tested 4 pounds of working pressure and 2,120 feet of salt water. The company's No. 3 McKinney, in the north extension area, cored sand, showing oil, at 4,652-73 feet, and is being completed through perforated casing at 4,660-70 feet. East of the Montalvo test about 1 mile, location was made for No. 1-B Montalvo, while 6,000 feet northeast of the discovery well, Section 4, No. 4 McKinney is being spudded.

Kelsey Field

To the north and located in the Kelsey field, Jim Hogg County, Humble Oil & Refining Co. No. 5 Bass cored sand showing gas at 4,650-67 feet and an oil sand at 4,700-10 feet. A drill stem test was being made. This well is between the discovery well and No. 3 Bass. Same company's No. 2 McGill, 1,933 feet east of No. 1 McGill, recently completed to extend production into Brooks County, is coring for the pay below 4,700 feet. Humble Pipe Line Co. is making survey for a proposed 56-mile 8-inch oil line from the field which will tie into the company's main line at Benavides. Construction of the line will depend upon the potentiality of the field which is now in the early stages of development.

In the Balcones fault line district, Humble Oil & Refining Co. was preparing to make a drill stem test at No. 2 Houston, in the Schattel area, Frio County. Edwards lime was topped at 5,090 feet and the hole is bottomed at 5,135 feet. A previous test at 5,105-19 feet showed 30 feet of mud in 10 minutes.

In the Batesville area, Zavala County, Wilcox Oil & Gas Co. is rigging up for No. 3 J. T. Gilliam, 1,300 feet from No. 1 Gilliam, which flowed some oil from the Edwards lime before it was abandoned a few years ago.



W. W. Zingery, Maps, Houston

Southwest extension of the McCampbell field, showing location of recent development which has spread production to within a short distance of the Aransas Pass city limits

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Calhoun-Victoria Counties

Heyser field: George Echols and others No. 15 Bennett, perforated casing 5,472-82 feet, 80 bbls., 7/64-inch choke.

Duval County

Benavides field: Gravis & Doran No. 9 Puig, sand 4,898-4,906 feet, 92 bbls., eighth-inch choke. Casa Blanca field: Magnolia Petroleum Co. No. 15 Duval County Ranch Co., sand 1,164-70 feet, 75 bbls., pumping. Magnolia Petroleum Co. No. 16 Duval County Ranch Co., sand 1,169-70 feet, 100 bbls., pumping. Eagle Hill field: Magnolia Petroleum Co. No. 13 Duval County Ranch Co., 1,582 feet, abandoned. El Mesquite field: Rogers & Rogers No. 4 Pena, 3,514 feet, abandoned. Fitzsimmons field: Collins & Porter No. 6 Fitzsimmons, perforated casing 4,373-90 feet, 82 bbls., quarter-inch choke. Hoffman field: Magnolia Petroleum Co. No. 22 Weil, sand 2,529-44 feet, 7 bbls. per hour, half-inch choke. Lundell field: Humble Oil & Refining Co. No. 6-B White, perforated casing 1,540-43 feet, 19 bbls., 14 hours, open tubing. Moore & Massingill No. 4 Duval Ranch Co., sand 1,500-15 feet, 200 bbls., jetting. Tesoro field: Magnolia Petroleum Co. No. 1 Spence, 5,241 feet, abandoned.

Hidalgo County

Samfordyce field: Weekly Oil Co. No. 2 Guerra, sand 2,862-72 feet, 100 bbls., eighth-inch choke.

Jim Wells County

Premont field: Transwestern Oil Co. No. 1 Seeligson, 6,083 feet, abandoned. South Alice field: Tom Graham No. 1 Hirsch, 5,775 feet, 633,000 cu. ft. of gas, eighth-inch choke.

(Continued on Page 91)

100% LONGER VALVE LIFE

With the

MISSION VALVE

the principle of

"PULL THE BUSHING AND SAVE THE SEAT"

extends the life of the Mission Valve and Seat at least 100%

In many instances the life of Mission Valves and Seats has been extended 200% to 500% longer, due simply to the operator giving attention to replacing the wear-taking bushings at the proper time.

• • •

A MONEY SAVING PRACTICE

that has made Mission Valves leaders in every oil country.

SOLD THROUGH SUPPLY STORES EVERYWHERE

MISSION MANUFACTURING CO.
HUMBLE ROAD, HOUSTON, TEXAS
EXPORT OFFICE: 30 ROCKEFELLER PLAZA, NEW YORK

• SLIPS • VALVES • PISTONS • PISTON RODS • SWABS

California Field Report

By L. P. STOCKMAN

Tideland Development May Hamper Crude Curtailment

LOS ANGELES, Calif., Jan. 9.—Plans have been completed whereby Signal Oil & Gas Co. may soon proceed with tideland development in the Long Beach section of the Wilmington field. This projected work together with the probability that some additional wells will be drilled on acreage on which the city of Long Beach has asked for bids, is of importance in view of the attempt to reduce production of the Wilmington field to 69,970 bbls., daily, that prescribed by the Central Committee of California Oil Producers.

The possibility of an addition of 100 wells to the tideland accumulation in 1939 may render the problem of restricting production in the Wilmington field very difficult. The Long Beach Harbor Commission, however, has shown a cooperative spirit in permitting lessees to conform with the curtailment program approved by other operators and thus it is probable that any production developed from the tidelands will be brought into line with other producing wells and properties in the field. This is especially true as Signal Oil & Gas Co. is a conservative operator and sympathetic with conservation and curtailment.

In the Wilmington field, General Petroleum Corp. No. 14 Southern Pacific was completed flowing 1,040 bbls. of clean 20.7-gravity oil per day from 4,000 feet. Perforations were at 2,424-2,808 feet, 2,933-3,143 feet, 3,303-3,463 feet, 3,503-83 feet, 3,624-3,703 feet, and at 3,850-4,000 feet and was cemented through perforations at 2,933 feet, 3,300 feet, and at 3,850 feet. Union Pacific Railroad Co., largest fee owner of acreage in the Wilmington field, completed No. 96 flowing 112 bbls. of 18.7-gravity oil per day from the Ranger zone with bottom of the hole at 3,257 feet.

Tupman

Richfield Oil Corp. recompleted its discovery well in the Tupman field, flowing 1,760 bbls. of 44.2-gravity oil per day through a 1½-inch bean after blanking off the gas cap which was producing at too high a gas-oil ratio. The bottom of the hole remained at 8,677 feet but a new 6⅝-inch liner including 128 feet of perforated was run in and cemented through perforations at 8,523 feet. This well was originally designated as No. 1 Tupman-Western but in the future will be known as No. 32-32-A Western. It is in Section 32-30-25. That the blanking off of the gas cap has had the desired effect is evidenced by the fact that gas production has been reduced to 7,060,000 cu. ft. from 154 feet of oil zone in place of the 271 feet formerly produced. Top of the pay was logged at 8,285 feet but this upper part was cased off by landing the 8⅝-inch water string at 8,406 feet. Richfield Oil Corp. is grading location for No. 52-32, three locations, 990 feet east of the discovery well.

Canal

The Canal field has been the center of interest during the past 10 days due to the logging of a promising oil sand by Shell Oil Co. in No. 87-4-B Kern County Land, in Section 4-30-25, and the coring of top of the Stevens zone by Standard Oil Co. in No. 1 Rio Bravo fee. The latter well had top of the productive Stevens interval at 8,240 feet, or 150 feet lower than the same horizon in Ohio Oil Co.'s discovery well. It is in Section 12-30-26. After logging the Stevens zone it was drilled ahead to 8,280 feet and a 9-inch water string landed at 8,238 feet. Shell No. 87-4-B Kern County Land, a wildcat north of the present edge of the Canal field, is going ahead at 10,695 feet after the company landed a 9⅝-inch water string at 9,621 feet. On a formation test at 10,236-96 feet the crew recovered 180 feet of 33.9-gravity oil with a little mud and fresh water with the valve open one hour. The formation at that point had been a sandy shale with occasional thicknesses of oil sand that showed up rather promising. It is questionable whether the main accumulation has been found although this wildcat may be located around the edge of a potentially productive zone.

Rosecrans

In the Rosecrans field of Los Angeles Basin, Union Oil Co. No. 27 Rosecrans was completed flowing 690 bbls. of 36.7-gravity oil and 1,600,000 cu. ft. of gas per day. L. J. O'Donnell No. 46 Rosecrans was finished flowing 760 bbls. of clean 36.8-gravity oil and 800,000 cu. ft. of gas per day, and Hydrocarbon Products No. 1 Cole was brought in flowing 930 bbls. of clean 36.7-gravity oil and 900,000 cu. ft. of gas per day. Union No. 27 Rosecrans was bottomed at 7,810 feet and brought in flowing through a 96/64-inch bean under a pressure of 190 pounds on the tubing and 600 pounds on the casing. No. 1 Cole of Hydrocarbon Products, and L. J. O'Donnell No. 46 are offsets and both showed excellent production behind 48/64-inch beans. The former was finished with a 6⅝-inch water string landed at 7,665 feet with bottom of the hole at 7,750 feet and brought in barefoot, there being no pipe below the shoe of the water string. L. J. O'Donnell No. 46 Rosecrans was finished at 7,725 feet with a 7-inch water string landed at 7,645 feet and has 105 feet of producing formation. Pending completions include Union Oil Co. Nos. 29 and 30 on the Rosecrans property and Royalty Service Corp. No. 3 Gordon which is at present standing cemented.

Barnsdall Oil Co. is making a production test on No. 10 Rosecrans which was carried to 8,747 feet in search of an eighth productive zone and then plugged back to 6,168 feet when the deep search failed to yield anything. This well has a string of 6⅝-inch casing cemented at 8,572 feet and so the production test now being made was started after the pipe had been perforated at 5,960-65 feet. It is flowing 320 bbls. of 34.8-gravity oil cutting 25 per cent behind a 15/64-inch bean and showing a salinity of 1,350 grains per gallon indicating a normal salt water. Howard Oil Co. has started rig construction for a new well to be drilled at Maple and Compton boulevards, and the H. B. Oil Co. is scheduled to start its second well in this field within 10 days. Universal Consolidated Oil Co. has derrick up for No. 10 Trust. Bankline Oil Co. abandoned No. 1 Kirby due to mechanical trouble at 7,653 feet, and has started grading location for a second well.

Coles Levee

Tide Water Associated Oil Co. has staked location for No. 1 Kern County Land, C NE NW NE Section

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 31		December 24			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	924,037	129,788
Fuel oil	137,878	19,697	.....	.....	338,079	.....
Diesel and gas oil	.....	.....	.....	.....	.....	176,726
Gasoline	52,886	7,555	.....	.....	2,932,509	4,092,608
Kerosene	.....	.....	.....	.....	333,626	401,541
Foreign exports—						
Crude oil	337,560	48,223	171,495	24,499	21,152,074	16,939,187
Fuel oil	30,282	4,326	61,691	8,813	9,015,804	14,086,300
Diesel and gas oil	160,239	22,891	116,036	16,577	5,814,670	8,043,784
Gasoline	490,477	70,068	67,312	9,616	8,447,664	8,009,435
Kerosene	26,196	3,742	28,658	4,094	1,194,589	2,003,872
Asphalt	.....	.....	.....	.....	8,144	.....
Lubricants	17,846	2,549	16,712	2,387	210,118	12,984
Other unfinished oil	.....	.....	.....	.....	.....	1,028,732
Coastwise-domestic—						
Crude oil	110,608	15,801	224,312	32,045	11,324,135	6,299,931
Fuel oil	451,996	64,571	193,163	27,595	12,540,710	15,448,066
Diesel and gas oil	108,289	15,470	35,168	5,024	1,351,826	2,353,259
Gasoline	459,184	65,598	163,040	23,291	14,725,422	16,377,592
Kerosene	5,933	848	3,154	451	258,351	466,423

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	68,671	9,810	320,231	549,993
Gasoline	.....	.....	.....	.....	25,409	151,052
Kerosene	.....	.....	.....	.....	16,124	72,750
Asphalt	.....	.....	.....	.....	490,039	413,885
Lubricants	.....	.....	.....	.....	19,945	28,548
Foreign exports—						
Crude oil	.....	.....	271,068	38,724	5,307,470	3,620,732
Fuel oil	112,449	16,064	.....	.....	2,518,311	1,967,509
Diesel and gas oil	255,601	36,514	171,855	24,551	3,480,022	3,015,862
Gasoline	66,923	9,560	145,181	20,740	5,379,600	5,470,426
Kerosene	.....	.....	.....	.....	696,099	928,202
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	28,190	4,027	22,705	3,244	585,037	706,970
Other unfinished oil	.....	.....	.....	.....	.....	24,950
Coastwise-domestic—						
Fuel oil	139,654	19,951	308,982	44,140	6,873,460	6,445,335
Diesel and gas oil	83,712	11,959	12,977	1,854	1,637,969	1,552,888
Gasoline	169,897	24,271	192,414	27,488	7,946,727	6,181,466
Kerosene	14,922	2,132	21,382	3,055	708,113	491,368

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	924,037	129,788
Fuel oil	137,878	19,067	.....	.....	338,079	.....
Diesel and gas oil	.....	.....	68,671	9,810	320,231	726,719
Gasoline	52,886	7,555	.....	.....	2,957,918	4,243,660
Kerosene	.....	.....	.....	.....	349,750	474,291
Asphalt	.....	.....	.....	.....	490,039	413,885
Lubricants	.....	.....	.....	.....	19,945	28,548
Foreign exports—						
Crude oil	337,560	48,223	442,563	63,223	26,459,544	20,559,919
Fuel oil	142,731	20,390	61,691	8,813	11,534,115	16,053,809
Diesel and gas oil	415,840	59,406	287,891	41,127	9,294,692	11,059,646
Gasoline	557,400	79,629	212,493	30,356	13,827,264	13,479,861
Kerosene	26,196	3,742	28,658	4,094	1,890,688	2,932,074
Asphalt	.....	.....	.....	.....	64,402	.....
Lubricants	46,036	6,577	39,417	5,631	795,155	719,954
Other unfinished oil	.....	.....	.....	.....	.....	1,053,682
Coastwise-domestic—						
Crude oil	110,608	15,801	224,312	32,045	11,324,135	6,299,931
Fuel oil	591,650	84,521	502,145	71,735	19,414,170	21,893,401
Diesel and gas oil	192,001	27,429	48,145	6,878	2,989,795	3,906,147
Gasoline	629,081	89,869	355,454	50,779	22,672,149	22,559,058
Kerosene	20,855	2,979	24,536	3,505	966,464	957,791

14-31-25, in the Coles Levee district of Kern County in the San Joaquin basin. It is about 1 mile southwest of Ohio Oil Co. No. 1-F Kern County Land, the discovery well in the Coles Levee field, which was brought in flowing 826 bbls. of clean 44.5-gravity oil per day through a 1½-inch bean from the equivalent of the Stevens zone with bottom of the hole at 9,365 feet. Seismograph surveys indicate that Tide Water Associated Oil Co. new wildcat is on the structural trend which extends from the Buena Vista Lake gas field to the Elk Hills field. Standard Oil Co., holder of extensive potential oil land in San Joaquin Valley, has already started prospecting in this area, a derrick having already been erected for No. 20-1 Kern County Land in Section 9-31-25. Ohio's discovery well is in Section 10-31-25 and on the same lease the company is making hole in No. 2-F Kern County Land at 2,560 feet.

Torrance—Harbor City

The period of flush production appears to be over in both the Lomita and Eshelman sections of the Torrance field and at Harbor City where recent completions have been rather small.

In the Harbor City area, Richfield Oil Corp. completed No. 1 Capitol pumping 140 bbls. of clean 29.1-gravity oil per day from 5,235 feet after the hole had been carried down to 5,301 feet and then plugged back. L. J. O'Donnell No. 44 Oakley has been completed flowing 232 bbls. of 29.8-gravity oil cutting 4 per cent from 5,249 feet. This new producer, which was held up with a fishing job for a couple of weeks, was brought in flowing through a 32/64-inch bean.

In the Lomita section of the Torrance field, J. E. P. Oil Co. No. 1 Marilou was good for 218 bbls. of 25.8-gravity oil cutting 6 per cent on the bean, and Bolling Oil Co. No. 1 Autrey was good for 145 bbls. of 25.7-gravity oil cutting 3 per cent. The former was bottomed at 5,150 feet but was plugged back to 5,128 feet. Bolling Oil Co. has erected a derrick for No. 2 Autry and has begun rig for No. 3 Autry. Campeet Oil Co. has staked location for an outpost to be drilled near Sepulveda and Normandie avenues, about 1 mile from the nearest production, with actual work scheduled to be started within one week.

Brea Olinda

At Shell Oil Co. No. 20 Orange, in the Brea Olinda field, a formation test at 6,914-73 feet, open 45 minutes showed a recovery of 273 feet of oil and gas-cut mud. The oil recovered tested 27.5 degrees but the company did not stop drilling as the well is a deep, conclusive test. It was drilling at 7,355 feet. Birch Oil Co. No. 5, in Section 2-3-10, completed in 1911 doing 8,000 bbls. of clean 28.1-gravity oil per day, recently died and has been suspended as a result of mechanical trouble that developed when the crew went back into the hole in an effort to stimulate production. This well bottomed at 3,947 feet, with a water string landed at 2,620 feet and 1,340 feet of productive oil zone was beaned back to 2,500 bbls. per day shortly after completion and flowed at this rate for the following six years. From 1917 until recently it was a pumping well which showed a normal decline in production over the period and during the 27 years of its life the well produced 4,254,120 bbls. of crude oil and a large volume of gas. The 20-acre lease on which it is located has yielded more than 20,000,000 bbls. of crude oil. One of the most significant features in connection with this well is that it produced during the time when crude oil prices showed a wide variation but which probably registered better than $1 per barrel during the life of the well.

Ventura Avenue

In the Ventura Avenue field, Shell Oil Co. finished No. 32 Edison flowing 3,003 bbls. of clean 31.1-gravity oil and 2,290,000 cu. ft. of gas per day from 8,470 feet through open line before the flow was beaned back. Tide Water Associated Oil Co. No. 126 Lloyd bottomed in the deep 57 zone at 10,115 feet, was brought in flowing 1,558 bbls. of 30.9-gravity oil and 1,800,000 cu. ft. of gas per day through a 96/64-inch bean. Flowing pressure on the tubing was 125 pounds and on the casing 800 pounds but both have shown a substantial increase since the well was beaned back. Tide Water Associated No. 12 McGonigle, a former upper zone producer, was returned to production early this week flowing 669 bbls. of clean 30.8-gravity oil and 900,000 cu. ft. of gas per day through a 96/64-inch bean from 10,569 feet.

San Joaquin Basin

Richfield Oil Corp. is preparing to make a production test on No. 1 Kern County Land, an outpost in the Wheeler Ridge field of Kern County in the extreme southern end of San Joaquin basin. This deep well, bottomed at 9,272 feet with an 8⅝-inch water string landed at 8,565 feet, is being prepared for a test following the landing of a 6⅝-inch liner. This well is believed to have logged the Vedder or Rio Bravo sand at 8,570 feet to 8,713 feet. Amerada Petroleum Corp. is installing rotary in No. 6 Beer in the Blackwells Corner section of Kern County, in Section 21-26-19. The present work is a test for an overlap condition. Superior Oil Co. and Standard Oil Co. are starting a joint wildcat in the Arvin section of Kern County not far removed from a deep test drilled last year by Union Oil Co. which showed oil and gas but which failed to develop commercial production. In the Southeast Coalinga field of Fresno County, Superior Oil Co. is rotating ahead in No. 1 Cagle, a northern outpost in Section 6-20-16, at 7,099 feet, and while the Gatchell zone has not yet been found it is expected to be encountered within another 100 feet. This well will extend the productive limits of the field about 3,500 feet to the north if commercial production is found. Standard No. 1-17-F, located in Section 17-20-16, has reached a depth of 7,568 feet. In the old Coalinga field, General Petroleum Corp. has completed No. 101 Esperanza in Section 6-20-15, pumping 40 bbls. of 14.2-gravity oil cutting 3 per cent from the Temblor with bottom of the hole at 1,169 feet. Superior Oil Co. has reentered the Magunden district of Kern County and will drill a wildcat on the Clerico property east of the Fruitvale field in Section 26-29-28.

Los Angeles Basin

Union Oil Co., on the Callender lease in the Dominguez field, completed No. 65, flowing 745 bbls. of 30.8-gravity oil and 750,000 cu. ft. of gas per day from 7,365 feet, through a 36/64-inch bean. Three new wells are being started in the Aliso Canyon field discovered a few months ago by Tide Water Associated Oil Co.

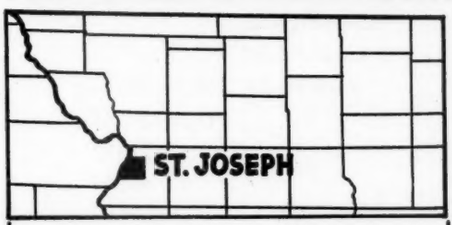
GOTT WATER COOLER
Made in 3, 5, 8, 10, and 20 gallon sizes.

Gotkoo!
WATER CANS & COOLERS

GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today! . . . . . .

GOTT WATER CAN
Made in 1½, 3, 5, and 10 gallon sizes.

H. P. GOTT MFG. CO.
WINFIELD, KANSAS
KEEP PURE DRINKING WATER ALWAYS HANDY



IN THE CENTER
OF THE NEW
MISSOURI PLAY

STOP AT THE LEADING HOTEL IN ST. JOSEPH, MO.
THE
ROBIDOUX

GET LUFKIN FOR UTILITY

Oilmen! No matter what pattern Tape or Rule you prefer, there's an accurate, sturdy and durable Lufkin to suit your needs. The "Mezurall" Tape-Rule and "Red End" Rule here shown are but two of the many top-notch favorites in the extensive line of Lufkin Measuring Devices.

See Lufkin pages in Petroleum Register and Composite Catalog.

Write for free complete catalog No. 12.

THE LUFKIN RULE CO.
SAGINAW, MICHIGAN
TAPES — RULES — PRECISION TOOLS

and actual drilling operations should get under way within the next 10 days. Tide Water Associated Oil Co. operations consist of one well flowing 241 bbls. of clean 24.4-gravity oil from 5,365 feet and a derrick going up for No. 2 Porter in Section 27-3-16. The company filed an application a few days ago with the Los Angeles City Planning Commission seeking a variance which will permit drilling operations on 597 acres of mountainous land in Aliso Canyon in the northernmost section of San Fernando Valley adjoining the county line. The company proposes to drill 60 wells if developments warrant. Standard Oil Co. is putting the finishing touches on No. 1 Ward to be drilled in the Aliso Canyon field in Section 27-3-16 and Union Oil Co. should have the derrick for No. 1-27 Orcutt completed within the next few days. No. 1 Ward of Standard and No. 1-27 Orcutt of Union offset Tide Water Associated Oil Co. No. 1 Porter, the discovery well.

In the Huntington Beach field, Southwest Exploration Co. spudded in Nos. 6 and 14 on its state tideland permit and has derricks nearing completion for Nos. 7 and 8.

Ohio Fields

(Continued from Page 66)

Township, Protzman & Hogue No. 1 B. A. Protzman, Section 26, is a second Cow Run sand gas well with an open flow of 550,000 cu. ft.; total depth 792 feet.

In Muskingum County, Harrison Township, Swingle Co. No. 1 Ira L. Shurtz, Section 18, is a gas well with an open flow of 5,550,000 cu. ft. from Clinton sand at 5,214-34 feet, total depth.

In Noble County, Jackson Township, Castadon Oil & Gas Co. No. 30 Carl Ogle, Section 12, is a small gas well in Berea sand, total depth 1,565 feet. In Wayne Township, Peters & Huntsman No. 1 Earl Finley, Section 34, found a trace of Berea sand and was abandoned at 1,515 feet.

In Wayne County, Congress Township, Alexander McCrea No. 1 Amos Wohlgamuth, Section 13, gauged 1,200,000 cu. ft. open flow from the Clinton sand at 3,124-35 feet.

In Washington County, Fairfield Township, Fairfield Gas Co. No. 1 Ray McMurray, Section 1, found 120,000 cu. ft. of gas in the Berea sand at 1,696-99 feet.

In Ludlow Township, Harry Dickson No. 1 O. H. Johnson, Section 22, is a small Berea sand gas well, total depth 1,900 feet.

In Washington County, Fairfield Township, Witago Oil Co. No. 2 W. G. Freese, Section 18, found 100,000 cu. ft. of gas 7 feet in the Injun sand. Total depth is 1,377 feet. In Liberty Township, Baker & Dailey No. 4 Albert Pryor, Section 22, made 5 bbls. of oil in the Keener sand the first day without a shot; pay at 1,365-70 feet. In Liberty Township, Best Run Oil & Gas Co. No. 1 D. V. Warren, Section 21, found the Keener sand dry at 1,379 feet; the hole filled back to 1,260 feet and tubed for a small Maxon sand gas well.

Lima Field

In northwestern Ohio, only one completion was reported. In Hancock County, Van Buren Township, Herman Bosse No. 1 A. A. Glick, Section 18, was abandoned after finding only a small show of gas in the Trenton; top of Trenton 1,443 feet; total depth, 1,543 feet. In Washington Township, Travelers Oil Co. have set 5 1/16-inch casing on top of the Green sand in the Jacob McCauley, Section 2, shut down to test.

In Seneca County, Clinton Township, Sun Oil Co. No. 2 Mary Crum, Section 7, is drilling at 380 feet in the Trenton.

NATIONAL BANK OF TULSA

TULSA, OKLAHOMA

Statement of Condition, December 31, 1938

RESOURCES

Cash and Due from Banks	$29,432,554.62	
U. S. Government Securities	15,737,332.59	
Other Bonds and Warrants	5,286,366.32	$50,456,253.53
Loans and Discounts		15,388,145.41
Overdrafts		273.87
Income Receivable Accrued		127,665.55
Stock in Federal Reserve Bank		180,000.00
Investment in Bank Premises		2,885,476.52
Customers' Liability under Acceptances		2,160.00
TOTAL		$69,039,974.88

LIABILITIES

Deposits		$62,436,652.63
Acceptances Executed		4,518.00
Income Collected not Earned		58,369.60
Reserve for Interest, Taxes, etc.		41,540.78
Reserve for Preferred Dividends		16,875.00
Capital—Preferred	$ 1,125,000.00	
Capital—Common	2,500,000.00	
Surplus	2,375,000.00	
Undivided Profits and Reserves	482,018.87	6,482,018.87
TOTAL		$69,039,974.88

The Oil Bank of America

Member Federal Deposit Insurance Corporation

Rocky Mountain Fields

(Continued from Page 75)

in the Madison contact where the 5 1/16-inch was set at 2,285 feet. First oil showed in a lime break at 2,293 feet and hole was drilled to 2,318 feet. Oil rose at the rate of 25 feet a day with no water. First acidization did not "take" and the casing was cemented and hole reacidized with 500 gallons. It pumped 76 bbls. of oil with 40 per cent water the first 12 hours when it had to shut down on account of damage to equipment by a heavy wind and sub-zero weather. It is not known whether the head was pumped off. Location is 12 miles south and 2 miles east of Cobb No. 1 State, the gas discovery in North Cut Bank and the same distance north and 4 miles east of Yukon Oil Co. No. 1 Lungren, a recent oil discovery in the Moulton sand. It is less than a mile east of the Eagle sandstone escarpment around the Sweetgrass Arch. While the second acidization brought in some water with the oil, this is not uncommon in the district.

Big West Oil Co. No. 5 Engle, CEL SW SW Section 1-35n-3w, was plugged and abandoned at 1,845 feet. It had sulfur water in lime break at 1,843 feet.

Morton & Parrent No. 1 Osthoff, SW SW SE Sec. 1-35n-3w. Drlg. 260 ft.

Kippen Oil & Gas Co. No. 1 Thompson, C NE SE Sec. 28-34n-1e. Spdg.

Prevel & Shea No. 1 Govt., CSL NW SW Sec. 11-35n-3w. Drlg. 250 ft.

Sid Porter No. 1 Bradley, SE cor. Sec. 3-34n-2w. S.D. 400 ft.

Neptune O. & G. Co. No. 7 Seabrook, NW NW SW Sec. 19-35n-2w. Drlg. 1,580 ft.; S.O. 1,313-18 ft. in Sunburst.

Superior Pet. Co. No. 4 Goeddertz, CEL SE SW Sec. 12-35n-3w. S.D. 1,523 ft.

Kluth et al No. 2 Gunderson, SW cor. Sec. 18-35n-2w. T.D. 910 ft.; 8¼-in. on bttm.

Platt-Bell No. 1 Govt., SW NW NE Sec. 9-34n-2w. S.D. 455 ft.

C. L. Smith, Agt., No. 1 Govt., SW SE NW Sec. 13-35n-2w. S.D. 1,045 ft.

Aspen O. & R. Co. No. 1 Govt., C NE SE Sec. 25-36n-3w. S.D. 2,050 ft.

Fulton-Commonwealth No. 2 Thompson, NW NE SW Sec. 28-35n-3w. T.D. 1,665 ft.; cmtd. 7-in. on bttm.

Chas. Grant et al No. 1 Anderson, SE NE NE Sec. 26-35n-4w. S.D. 2,109 ft.

Yellowstone County

Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. T.D. 1,990 ft.; rng. 6¼-in.

UTAH

Cane Creek Oil Co. No. 1 Govt., NW SW Sec. 31-26n-21e. Drlg. below 2,500 ft.

Crescent Eagle Oil Co. No. 1 Brendel, SW SE Sec. 4-22s-19e. Drlg. 4,110 ft.

Summit County

Longwell Pet. Co. No. 1, SE SW SE Sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

Gulf Coast Fields

(Continued from Page 78)

Johnson, 6,145 feet, abandoned. Humble Oil & Refining Co. No. 1 Messimer, 6,096 feet, abandoned.

Tyler County

Spurger field: Republic Production Co. and others No. 15 fee, sand 7,603-16 feet, 525 bbls., one-quarter choke.

Wharton County

Withers field: Texas Co. No. 2 J. E. Broussard, sand 5,542-47 feet, 99 bbls., one-eighth inch choke.

Oklahoma Operations

By
DAL DALRYMPLE

South Offset to Discovery at Hillsdale Shows as Producer

Completion of a second producing well in the Hillsdale pool in northwestern Garfield County appeared imminent at Champlin Refining Co. No. 1 Mackey, NW NW SE Section 4-24-8w, south offset to the discovery well. It was to be tested after tubing had been run. The well cleaned itself from 1,500 to 3,500 feet while the crew was running tubing last Saturday, flowing oil and water. It previously had made some head flows, one of 25 bbls. of oil, with no salt water showing. Shut-in pressure builds up to 650 pounds. The hole was bottomed at 6,697 feet in second Wilcox sand topped at 6,685 feet. The company's No. 2 Boehm, west offset to the discovery well, was coring below 6,465 feet.

The old Doyle pool in Stephens County was revived the past week when a new horizon was found productive in the Helmerich & Payne, Inc., No. 1 Heffner, NE NE SW Section 12-1n-5w, reported to have flowed 40 bbls. of oil in 40 minutes after perforating casing at 3,705-40 feet. It originally was bottomed at 3,920 feet and completed for 30 bbls. of oil daily in October, 1937. These operators revived the shallow Doyle pool more than a year ago when they completed a 384-bbl. well in Hoxbar sand at 3,784-3,800 feet. after originally drilling to 5,000 feet and plugging back.

A Wilcox sand test is due to be drilled in the Roosevelt area of Kiowa County as a result of a deal in which Charles J. Hagerling of Ada and associates were reported to have taken over a 9,000-acre lease block in Townships 4n and 5n, Ranges 17w and 18w. The No. 1 Kimray, SW SW NW Section 36-5n-18w, on the block, was drilled to 300 feet last October and shut down. The new operators were reported moving cable tools to the location, preparatory to begin drilling at once. A. G. Lawson of Dallas, Tex., and A. L. Mattocks, drilling contractor of Hobart, Okla., are said to be interested with Mr. Hagerling in the deal.

Among the Wildcats

Results of wildcat drilling in Oklahoma offered little to enthuse over in the first full week of the new year, the only outposts completed being listed as failures.

Jim Turner No. 5 Collins, C NE NE Section 18-4s-10w, wildcat southwest of Temple in Cotton County, was abandoned at total depth of 1,380 feet in shale.

Mead Production Co. No. 1 Pine, SW SW NW Section 14-12-11, outpost in northeastern Okfuskee County, topped Wilcox sand at 3,470 feet and was dry and abandoned at 3,478 feet, total depth.

Patsy Oil Co. No. 1 Spence, NW SE SE Section 19-2n-8, Coal County, found stains of oil at 5,371-75 feet, but was dry and abandoned at 5,381 feet, total depth. This wildcat is north of the Jesse pool and east of Fitts.

Hughes & Reise No. 1 Fultz, SE cor. Section 10-6-18w, wildcat near Hobart in Kiowa County, failed to find shallow production and was abandoned at 1,278 feet, total depth.

Pottawatomie County

Howard L. Berkey No. 2-A Richards, C S half SE SE Section 35-7-4, St. Louis field, Pottawatomie County, pumped 600 bbls. of oil and 800 bbls. of water in 24 hours from dolomite at 4,170-4,207 feet, total depth.

E. W. Jones No. 2 School Land, SW SW NE Section 36-7-4, topped dolomite at 4,240 feet, was bottomed at 4,350 feet, and pumped 440 bbls. of oil and 360 bbls. of water in 24 hours.

Pioneer Drilling Co. No. 4 Billington, NE NE SW Section 36-7-4, found dolomite at 4,235-4,348 feet, total depth, and pumped 500 bbls. of oil and 600 bbls. of water in 24 hours.

H. Schafer No. 1 Grove, NE cor. Section 5-6-5, was a rig. Magnolia Petroleum Co. No. 4 Lynn, SW NE NE Section 21-7-4, was rigging up rotary. Howard L. Berkey No. 2 Billington, SE SW SW Section 31-7-5, was a rig.

Cooper Drilling Co. No. 1 Richards, NE NE NW Section 35-7-4, was dry and abandoned at 4,395 feet, total depth.

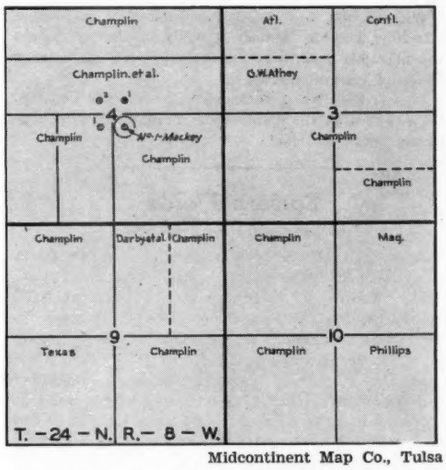
Hughes County

Crescent Oil Co. No. 1 Neise, C NE NW Section 24-9-10, Hughes County, was drilled to 3,176 feet, plugged back to 3,637 feet, and was dry and abandoned.

Black Gold Oil Co. No. 1 Lubles, SE SE SW Section 29-8-9, North Holdenville area, had dug cellar and pits.

Okmulgee County

Jim Oil Co. No. 11 Wisener, NW NE NE Section 25-14-13, Okmulgee County, found Booch sand at 1,343-



Midcontinent Map Co., Tulsa

Champlin Refining Co. No. 1 Mackey, south offset to the discovery well in the Hillsdale pool, Section 4-24-8w, Garfield County, was showing as a producer

49 feet, total depth 1,355 feet, and was completed as a 1-bbl. pumper.

Bryan Petroleum Co. No. 1-A Davis, NE cor. Section 21-15-11, was dry and abandoned at 2,901 feet, total depth.

W. O. Schock No. 1 Miller, CSL SE SW Section 9-14-11, had first Dutcher sand at 2,385-95 feet, second sand at 2,437-60 feet, and was dry and abandoned at 2,462 feet, total depth.

Royal Oil & Gas Co. No. 9 Thomas, NW NW NE NE Section 29-15-14, pumped 12 bbls. of oil daily after a shot and was completed at total depth of 1,639 feet.

Lincoln-Oklahoma Counties

Coralena Oil Co. No. 2 Sac and Fox, SE NE SE Section 16-14-6, Sac and Fox field, Lincoln County, was completed for 150 bbls. of oil daily after a shot. Production was from Prue sand topped at 2,938 feet, total depth 2,966 feet.

Ohio Oil Co. No. 3 Keefer, NE NW NW Section 5-13-3w, Edmond field, Oklahoma County, entered dolomite at 6,595 feet, was bottomed at 6,665 feet, and produced 184 bbls. of oil daily.

Creek-Mayes Counties

Francis Oil & Gas Co. No. 1 Bruce, SW NW SW Section 15-17-9, Creek County, was shot, pumped 38 bbls. of oil daily and was completed at 2,464 feet, total depth.

J. O. Smith and others No. 1-B Massey, NW NE NE Section 13-17-10, Creek County, failed to find production and was abandoned at 1,924 feet.

J. E. Crosbie, Inc., No. 1 Baker, SW SE NW Section 20-17-9, Creek County, was dry and abandoned at 3,317 feet, total depth.

Ahrens & Miller No. 1 Snodgrass, NW cor. Section 8-19-19, southern Mayes County, was abandoned at 500 feet, total depth.

Osage-Kay-Noble

Barnsdall Oil Co. No. 6 Osage, SW Section 23-24-10, Osage County, swabbed and flowed 174 bbls. of oil in 24 hours from Bartlesville sand found at 1,720 feet, total depth 1,768 feet.

Clark C. Nye No. 1 Wolfenbarger, SW NW SW Section 16-27-4e, Kay County, was dry and abandoned at 3,315 feet, total depth.

Lake Petroleum Co. No. 2 Guthrie, NW NW SE Section 31-21-2w, North Lucien pool, Noble County, topped Wilcox sand at 5,410 feet, was bottomed at 5,461 feet, was shot and produced 420 bbls. of oil in 24 hours.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending January 7, and for the preceding week was as follows:

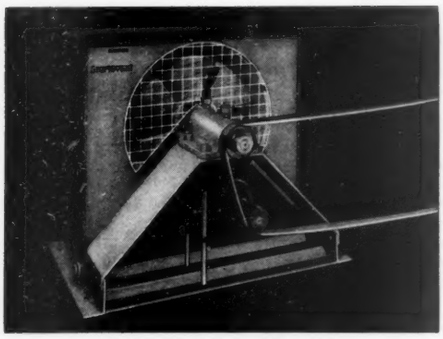
	Barrels	
	Jan. 7	Dec. 31
Allen	6,025	5,975
Billings	5,225	5,250
Burbank	7,575	7,200
South Burbank	9,350	9,200
Balance Osage	16,000	15,600
Blackwell district	3,975	4,000
Bristow-Slick	6,850	6,775
Chandler	1,875	1,900
Crescent	3,375	3,875
Cromwell	3,175	3,100
Cushing-Shamrock	10,300	10,200
Duncan district	4,275	4,250
Edmond	4,700	4,750
Fish	2,875	2,775
Fitts	33,100	32,375
Jesse	3,025	2,500
Graham-Fox	4,725	4,675
Gray	850	850
Healdton	9,425	9,300
Hewitt	3,450	3,450
Keokuk	3,825	3,700
Konawa	1,200	1,225
Lucien	7,750	8,100
Moore	4,050	4,125
Oklahoma City	74,300	97,425
Olympic	3,775	3,725
Ramsey	2,450	1,250
Sasakwa	1,300	1,325
Sholem-Alechem	2,675	2,625
Seminole district:		
Bowlegs	7,350	7,225
Carr City	2,725	2,775
Dora	4,625	4,600
Earlsboro	4,125	4,100
South Earlsboro	475	450
East Earlsboro	3,875	3,750
Little River	5,925	6,125
East Little River	775	750
Maud	725	875
Mission	1,300	1,325
Seminole	7,400	7,325
East Seminole	1,475	1,500
Searight	2,275	2,225
Total Seminole	43,050	43,025
St. Louis-Pearson	24,225	23,825
Tatums	2,000	2,050
Tonkawa-Garber-Thomas	4,175	4,100
Wewoka	2,075	2,050
Yale-Jennings	3,675	3,625
Other pools	82,000	81,750
Total Oklahoma	402,675	421,925

Seminole County

Five new operations were reported in Seminole County, including a wildcat east of the Searight field. It was H. S. Moss No. 1 Leachman, C N half SE NE Section 34-10-6, drilling ahead. Other new tests were:

Superior Oil Corp. No. 1 Gassaway, NE NW NE

Why it pays to buy...



Sturtevant
REG. U. S. PAT. OFF.

GAS ENGINE COOLERS

"Built by the Pioneers"

1. They stand up under severe service—reduce operating costs to a minimum.
2. For they are built by the pioneers in the Gas Engine Cooler field—the *first* unit cooler in the oil fields was a Sturtevant.
3. They are built by the World's Largest Maker of Air-Handling Equipment—with over 75 years of experience.
4. They are not merely an assembly of stock parts—but are specifically designed for Oil Field service.
5. They are backed by a responsible company who have been in business since 1860.
6. They are stocked in standard sizes and are built in special designs for unusual requirements.

When you purchase a gas engine cooler —PLAY SAFE. Buy a Sturtevant.

B. F. STURTEVANT COMPANY
Hyde Park Boston, Mass.

Distributors: Continental Supply Co.
National Supply Co. • Republic Supply Co.
Frick-Reid Supply Corp. • Oil Well Supply Co.

WELCOME
TO ST. LOUIS
Welcome to friendly service . . . fine food and drink, served in the hospitable atmosphere of
HOTEL
Mayfair
9th and ST. CHARLES
DOWNTOWN AT YOUR DOORSTEP
Over 50% of all rooms $3.50 or less single $5.00 or less double

Section 13-6-5, Mathis pool, cellar and pits.

Sunray Oil Co. No. 1 Fleet & Osborn, NE SW SW Section 12-6-5, Mathis pool, a rig.

Same company's No. 1 Weldon, NE cor. Section 13-6-5, Mathis pool, cellar and pits.

J. F. Smith No. 1 Billington, NW NW SE Section 28-7-6, Dora pool, building rig.

Carter County

Shell Petroleum Corp. No. 56 McClure, SE NE SW Section 5-4s-3w, Healdton field, Carter County, found sand at 1,050-76 feet, total depth, plugged back to 1,075 feet and drilled out to 1,080 feet. It pumps 6 bbls. of oil in six hours and pumps off.

Same company's No. 57 McClure, NE SE SW Section 5-4s-3w, was abandoned at 1,048 feet, total depth.

Caddo County

Olson Drilling Co. No. 2-A Royce, SW NW NE Section 12-5-9w, Cement field, Caddo County, was bottomed at 3,198 feet in sand and produced 25,000,000 cu. ft. of gas daily, with 1,100 pounds rock pressure.

Ohio Oil Co. No. 5 Bruce, SW SW NE Section 11-5-9w, was bottomed at 4,065 feet in sand and shale and pumped 27 bbls. of oil daily.

Stephens-Comanche-Jackson

George L. Pace No. 15 Payne, NE NW NW Section 28-2s-7w, Comanche area, Stephens County, found sand at 1,708-13 feet, total depth, and pumped 15 bbls. of oil and 50 bbls. of water daily.

Carl Keister No. 4 Jones-Quinn, NW SW SE Section 23-1s-5w, Velma pool, Stephens County, pumped 5 bbls. of 27-gravity oil daily from sand topped at 608 feet and was completed at 624 feet, total depth.

Wichita Oils, Inc., No. 7 Pope, NE NE SW Section 28-2n-10w, Lawton district, Comanche County, found sand at 916-26 feet, total depth 1,024 feet, and pumps 4 bbls. of oil and pumps off.

Fish & Fish No. 2 Mattie O'Neal, NE NW SW Section 5-1s-19w, in the Tipton pool, Jackson County, was drilling below 530 feet.

Eastern Fields

(Continued from Page 68)

Johnston and others have rigged up on the D. P. Curry farm in Ravenswood district. In Washington district, Godfrey L. Cabot, Inc., is drilling at 4,460 feet on the Walker and Jones lease. In Ripley district, Everett Starcher and others have the rig up on the R. R. Boggess farm.

In Grant district, Pleasants County, Columbian Carbon Co. has reached 4,727 feet on the Giles Hammet farm and is underreaming. In Harris district, Wood County, Potter Development Co. (New Penn) is drilling at 5,610 feet deepening on the W. H. Orem farm.

New Work

In Calhoun County, Everett Starcher and others have locations for No. 2 Salathiel Slyder in Lee district, elevation 1,107 feet and No. 3 C. C. Starcher, same district, elevation 1,166.35 feet.

In Pleasants County, Dinsmoor & Co. will drill on the R. T. Eddy farm in McKim district, elevation 1,136 feet. In Ritchie County, Reno Oil Co. has a location for No. 3 T. F. Overton in Murphy district, elevation 651 feet. In Wetzel County, A. J. Klug has locations for Nos. 1 and 2 W. L. Herrick in Proctor district, elevations 857 and 849 feet respectively.

North Texas Fields

(Continued from Page 76)

feet, 200 bbls. Duncan and others No. 4 T. P. Duncan, 1,143-56 feet, 135 bbls. R. C. Hart No. 2 M. A. Stephenson, 245 feet, dry.

Jack County

Webb Gregg No. 1 J. E. Shawver, 601 feet, dry.

Wichita County

King Oil Co. No. 2 J. L. Jackson, 2,640-45 feet, 610 bbls. J. L. Swanner No. 1 Mrs. Barbara Parker and others, 3,948-4,054 feet, 125 bbls., wildcat. Board of Mineral Development No. 2 State Lands, 3,685-3,785 feet, 750 bbls. L. T. Burns No. 23 Sue Mitchell, 3,801-78 feet, 840 bbls. E. C. Oil Co. No. 3 W. L. Hodges A, 3,665-3,835 feet, 770 bbls. Hanlon Buchanan No. 6 Fassett & Tuttle B, 3,955-4,013 feet, 860 bbls. Lincoln & Moore No. 1 Munger B, 3,864-70 feet, 50 bbls. W. B. Omohundro No. 31 J. R. Pace, 3,700-3,862 feet, 1,000 bbls. Panhandle Refining Co. No. 12 Reily Griffin, 1,798-1,840 feet, 6 bbls. Shell Petroleum Corp. No. 4 N. C. Griffin, 3,715-3,864 feet, 824 bbls.

Wilbarger County

Falls Refining Co. No. 1 J. L. Owens, 2,640-51 feet, 744 bbls.

Young County

A. T. Strong No. 1 J. J. Grubbs, 3,886-3,997 feet, 1,715 bbls. Pitzer & West No. 1 J. R. McCluskey, 3,738-85 feet, 10 bbls.

La.-Ark. Fields

(Continued from Page 83)

topped the massive anhydrite at 3,898 feet and went through the base at 4,135 feet in No. 1 Gayoso Co. The Jeter horizon was found to contain salt water in this wildcat, located in the Bisteneau area.

Shreveport Field

Harry Hanbury No. 1 Lowe, northeast extension well in the Shreveport field, this week showed a good production record, and the gas-oil ratio was reported to have dropped from 8,000 cu. ft. per barrel last week to about 550 cu. ft. per barrel this week.

R. E. Allison completed two good producers in the south central section of the field during the week, on his Ellerbe lease.

Magnolia Field

The Magnolia field of Columbia County, Arkansas, is due for an increase in drilling activity, according to new locations staked this week. Four new tests were announced. One is being rigged up, and a fifth is nearing the pay. The Magnolia field has seen a considerable revival since the completion of the Vaughn wells south of original production, which showed the steep dip in the Smackover lime, and over 100 feet of saturation in the southern tests.

Kansas Fields

(Continued from Page 67)

hole full of water and was abandoned at 3,352 feet, total depth.

Shell Petroleum Corp. No. 6 Hoffman C, SW SE SE Section 1-16-14w, Barton County side of the Trapp field, was a cellar. Deiter Co. No. 1 Putnam, SE NE SW Section 3-17-13w, Ainsworth district, was drilling.

Cowley County

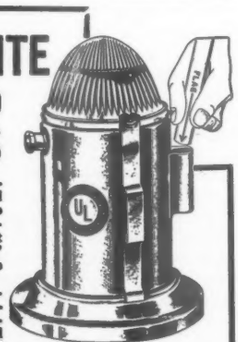
Hartman & Blair No. 1-A Waite, SE NE SW Section 21-31-4e, Hittle pool, Cowley County, based Mississippi lime at 3,203 feet, had Arbuckle lime at 3,275-83 feet, total depth, and was completed for potential of 1,722 bbls. of oil. It pumped and flowed 574 bbls. of oil in the first eight hours.

Barber-Sumner Counties

Barbara Oil & Gas Co. completed a failure at No. 2 Magnison, C E half SW Section 14-33-13w, Medicine Lodge area, Barber County. It was dry and abandoned at 4,827 feet, total depth.

Sinclair Prairie Oil Co. No. 10 Kamis, NW NW SW

Use ECOLITE
APPROVED
FLARES



All states issuing approvals have approved *Ecolite Flares.* Ecolite Flares also carry the Underwriters' label and meet the Automotive Engineers' Recommended Practice Specifications.
Ecolite Flares are weather-proof, cannot short, cannot turn on or off accidentally, are visible a full mile, due to exclusive dome design. NO FUSES NEEDED. No odor or fumes. No liquid to spill. No dirt or soot. Operate 60 to 80 hours.

Available at Supply Stores and Automotive Jobbers.

ECONOMY ELECTRIC LANTERN CO.
325 W. HURON ST. CHICAGO, ILL.

Section 10-31-1w, Wellington field, Sumner County, was a rotary rig.

Coffey-Butler-Greenwood

Tom Kilby No. 1 Crandall, SW SE SW Section 15-23-15, Coffey County, failed to find production and was abandoned at 1,510 feet, total depth.

Isador Molk No. 3 Wagner, NE SE SW Section 29-26-6, Butler County, was drilling below 750 feet.

Shull Drilling Co. No. 2 Long, SE SE NE Section 17-23-13, Virgil area, Greenwood County, set pipe and was waiting on cement at 1,762 feet.

Ellis County

New work in Ellis County included Cities Service Oil Co. No. 1 McCord, NW NW NE Section 26-11-17w, Bemis field, building rotary rig; and same company's No. 1 Hall E, SW SW SE Section 35-11-17w, also building rotary rig.

West Texas Fields

(Continued from Page 82)

2,012-15 feet, 145 bbls. Humble Oil & Refining Co. No. 2 Irving, 2,870-2,925 feet, 380 bbls. King Oil Co. No. 7 Carter, 1,914-22 feet, 343 bbls. Ungren & Frazier No. 1 Culwell, 3,215-33 feet, 502 bbls.

Shackelford County

Charter Oil & Gas Co. No. 1-B Swenson, dry and abandoned at 1,675 feet. Douglas No. 2 Baker, 1,887-97 feet, 25 bbls. Fortex Oil Corp. No. 1 McKeever, dry and abandoned at 3,271 feet. Fortson & Polk No. 1 McCown, abandoned location. Iron Mountain Oil Co. No. 2 Coker, abandoned location; No. 3 Coker, abandoned location. Keys and others No. 4 Diller, 509-19 feet, 10 bbls.

PANHANDLE FIELD COMPLETIONS

(24-hour tests)

Carson County

E. W. Means No. 1 C. E. Cooper, 3,086-3,142 feet, 156 bbls. Texoma Natural Gas Co. No. 1-T N. A. Cobb, 2,595-2,670 feet, 15,100,000 cu. ft. gas.

Collingsworth County

Tinsley White & Knoll No. 1 Knoll, temporarily abandoned.

Gray County

King Oil Co. No. 11 North Valmert, 3,235-73 feet, 453 bbls. Phillips Petroleum Co. No. 1 F. P. Willson, 2,717-2,808 feet, 13,360,000 cu. ft. of gas. Vulcan Oil Co. No. 1 R. W. Bailey, temporarily abandoned.

Hutchinson County

Alma Oil Co. No. 5 Whittenburg, 2,865-2,960 feet, 450 bbls. Gulf Oil Corp. No. 88 Dial, 2,990-3,100 feet, 285 bbls. Smith Brothers Refining Co. No. 4 W. E. Herring, 3,242-58 feet, 20 bbls.

Roberts County

Chicken Creek Oil Co. No. 1 P. C. Ledrick, temporarily abandoned at 6,365 feet.

Southwest Texas Fields

(Continued from Page 84)

McMullen County

Ezzell field: Harry Ezzell No. 28 Ezzell, 1,561 feet, abandoned. Munson field: Duncan & Graham No. 11 Nueces Land & Livestock Co., sand 1,211-21 feet, 91 bbls., pumping.

Refugio County

La Rosa field: G. S. I. and others No. 1 Spaulding, perforated casing 6,320-23½ feet, 172 bbls., eighth-inch choke. Refugio field: Houston Oil Co. No. 58 Rooke, sand 6,189-5,212 feet, 168 bbls., eighth-inch choke. Tomoconnor field: Quintana Petroleum Co. No. 4 Williams, perforated casing 5,768-5,806 feet, 628 bbls., quarter-inch choke.

San Patricio County

East White Point field: Plymouth Oil Co. No. 1 Ficke, perforated casing 5,639-49 feet, 150 bbls., 7/64-inch choke; No. 2 Teeter, perforated casing 5,657-61 feet, 147 bbls., 7/64-inch choke. Plymouth field: Plymouth Oil Co. No. 107-C Welder, perforated casing 5,611-14½ feet, 143 bbls., eighth-inch choke. Pantex Petroleum Co. No. 3 State, perforated casing 5,608-14 feet, 138 bbls., eighth-inch choke.

Starr County

Sun field: Sun Oil Co. No. 2 McKinney, perforated casing 5,112-16 feet, 115 bbls., eighth-inch choke.

Victoria County

East Placedo field: Stanolind Oil & Gas Co. No. 5 Vandenberge & Hill, perforated casing 6,368-72 feet, 1,500,000 cu. ft. of gas.

Webb County

O'Hern field: Hamill & Smith No. 5-B Benavides, sand 2,881-88 feet, 70 bbls., jetting.

Zapata County

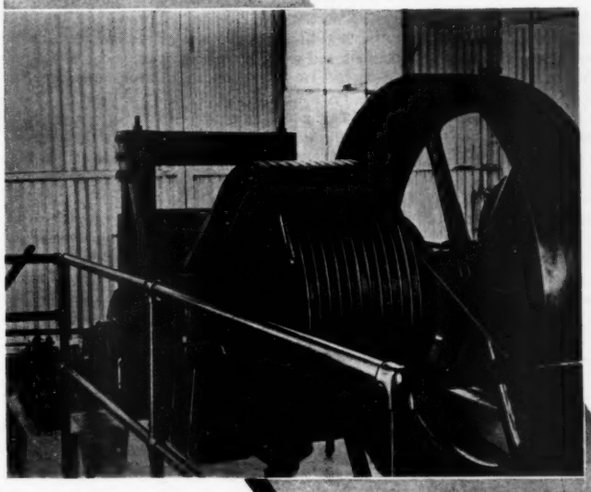
Comitas field: Gilcrease Oil Co. No. 30-B Haynes, 1,036 feet, 35 bbls., pumping.

Franchise in Saskatoon Sought by Two Firms

CHATHAM, Ont.—In the Lloydminster field in western Saskatchewan, Canada, Colony Oil & Gas Co. is negotiating to supply gas to Saskatoon. Colony No. 1 well, drilled some time ago, got 38,800,000 cu. ft. open flow at 1,701 feet depth, and No. 2 had 11,420,000 cu. ft. in the same horizon. Colony No. 3 is producing some crude from this sand, with the casing perforated at 1,395 feet for gas, which is used for pumping operations.

W. F. Thorn of Franco Oils, Ltd., and associates, who are also negotiating for a gas franchise for Saskatoon, have announced a development program for the Unity-Vera area in western Saskatchewan, involving the expenditure of $170,000. The program calls for drilling of 10 wells, contracts for four of which have been signed, the tests being put down by independent interests under arrangements with the Thorn group. Calgary and Vancouver groups have each undertaken to drill two wells in the Unity-Vera field.

"POINT for Profit" — by specifying DODGE "D-V" Drives on your equipment . . .



Dodge "D-V" Drives have built up an enviable record of performance in oil fields . . . They are known for their "Matched-Quality" because both sheave and belt emphasize the best in design, materials, and construction . . . They operate in perfect harmony to transmit full power continuously—safeguarding against costly shutdowns and power loss. "Point for Profit" . . . specify Dodge.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana, U.S.A.

Let us send you a copy of Dodge Catalog A-209 which gives complete engineering information on "D-V" Drives. Also see the Dodge 20-page section in the Oil Field Composite Catalog.

THE Right Drive FOR EVERY JOB

DODGE
MISHAWAKA
THERE IS ADDED VALUE IN THE NAME DODGE

Michigan Field Report

By
O. C. PRESSPRICH

Bloomingdale Village Adds Most of the Flush Production

SAGINAW, Mich., Jan. 9.—Bloomingdale village's townlot oil pool in Van Buren County added most of the flush production in Michigan last week, with other state pools inactive either because of the holidays or through virtual suspension of drilling due to market conditions and proration curbs.

Thirteen completions listed as producers were reported during the week, with Bloomingdale adding eight for a total added daily potential of 2,600 bbls. as against 850 bbls. daily added in other fields. All of the new producers are in southwestern Michigan fields except one 35-bbl. well in the Clare-Redding field. Allegan County fields brought in four.

While drilling activity lagged in Clare County's Freeman-Redding area, the few tests completed developed the first real disappointments in that district. Developments pointed to establishment of a western boundary for the Redding sector, where tests in Section 33 either have failed or shown only a fraction of the production evident further east and southeast.

A week ago Socony-Vacuum No. 2 Fell, NE SE SE Section 33, was reported semicompleted with a show of 35 bbls. in 48 hours. The well was treated, and since that time has been marked completed with production remaining unchanged. Operators said the well flowed 35 bbls. every two days. No. 2 Fell is a north offset to a well producing about 250 bbls. daily. Low production at this well caused Socony to abandon its No. 3 Fell, one location farther north. Pure Oil Co., major acreage holder in the Redding area, met a setback at its No. 1 Strange, NE SW SW Section 33, drilled in dry. This test also was an offset to a 250-bbl. producer, one location north. Careful development of the area, however, is in line with the agreed policy of operators in the Clare field as a conservation measure.

Allegan County

Heath Township (3n-14w)—First signs of resumed activity in the Heath field, technically a part of the Diamond Springs pool, was shown as the new year ushered in two completed producers in Section 1. This sector is immediately south of the Diamond Springs discovery in Section 36 of Overisel. Lima Drilling Corp. No. 6 Gates, SW SE NE Section 1, developed production of 100 bbls. daily after acid, and Fortney Oil Co. No. 9 Wasseling, NW SE NE Section 1, rated at 25 bbls. daily after treatment.

Lee Township (1n-15w)—Wildcatting continued in this sector, but failed to find commercial production at M., T. & W. Drilling Co. No. 1 Mulac, abandoned as dry.

Otsego Township (1n-12w)—Failure and abandonment was recorded at James Mishler No. 1 Harlan wildcat, NW NW NW Section 27.

Overisel Township (4n-14w)—One of the best producers developed to date in the so-called Overisel "21" pool was brought in last week at Gordon Oil Co. No. 2 Freye, NW NE SW Section 22, rated at 480 bbls. naturally. The high production, above average for the area, is believed to be on a northwest trend of the pay zone with the Overisel Section 36 area, discovery sector of the township.

Salem Township (4n-13w)—The old section of Salem's pool added one producer at A. S. Cochran No. 5 Neinker, SE NW NW Section 21, gauged at 200 bbls. daily after acid.

Clare County

Redding Township (19n-6w)—A small producer, deserving no production rating with other wells in the area, a dry hole, and an abandoned location blamed to the disappointing showing at the lone producer of last week, summarized activity in Clare fields. Socony-Vacuum No. 2 Fell, NE SE SE Section 33, an attempted western extension, failed to develop commercial production, but was rated as flowing 35 bbls. every two days. This showing caused Socony to abandon its No. 3 Fell, one location farther north. Pure Oil Co. No. 1 Strange, NE SW SW Section 33, was completed dry, also in the western extension area.

Missaukee County

Forrest Township (23n-7w)—Moser Oil Co. No. 1 Schetenheim wildcat was drilled to the Monroe without an oil show, and was abandoned.

Van Buren County

Bloomingdale Township (1s-14w)—Eight producers and a dry hole summarized completions in Michigan's most recent townlot pool. Four of the producers, all prolific wells, were reported on one 10-acre tract in the village of Bloomingdale. Fisher & McCall No. 1 Milling Co., SE SE NE Section 17, headed the list of top ranking producers with an output of 750 bbls. daily after acid. J. White No. 1 Lumber Co., SE SE NE Section 17, gauged 600 bbls. naturally, and John B. Norcott No. 1 Nowry, SE NE NE, was acidized to 300 bbls. daily. Bridger Basin Oil Co. brought in two producers, one at its No. 3 Cominsky, SW SW NE Section 17, rated at 200 bbls. daily natural, and the other at No. 1 Meek, SE SW NE Section 17, acidized to 400 bbls. daily. Burr Oil Co. No. 1 Saross, SE SE NW Section 17, recorded a 65-bbl. producer after treatment, and Clark & Johnson No. 1 Questschke, NW NW SE Section 14, gauged 200 bbls. after acid. The one dry hole was at William F. Malow No. 1 Dickerson, SE NE SW Section 17.

Columbia Township (1s-15w)—Despite slight shows of oil in the Traverse sand, Albero Oils No. 1 Crose, NE NW NW Section 9, was abandoned as a dry hole.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Jan. 6.—Crude oil and naphtha production from all Alberta fields in November totaled 427,236 bbls., against 667,454 bbls. in October. The decline was due to enforcement of more rigid proration throughout the month in Turner Valley, which in November showed 384,551 bbls. from limestone oil wells, 37,142 bbls. from limestone gas wells, and 778 bbls. from shallow crude wells against 662,761 bbls. of limestone production and 817 bbls. shallow production in October. With November, production from limestone gas wells (naphtha) is for the first time classified separately.

Okalta Still Testing

West of the proven South Turner Valley crude area, Okalta Oil Co. No. 6, LSD 3 Section 30-18-2w5, is still testing production from the upper porous zone of the Madison limestone, after plugging back 185 feet from original bottom of 10,209 feet. Before cementing, some salt water from the lower lime got into the upper porous horizon, and it is planned to swab till this is cleared, and treat the upper sand with 6,000 gallons of acid. Crude is standing about 8,000 feet in the hole which flows for considerable periods after swabbing. Operations throughout the field have been considerably hampered by severe cold weather.

Tests in the Lime

In Section 20-18-2w5, Producers Crude Corp. No. 1, LSD 11, finished in the black lime at 8,045 feet, has been given a temporary allowable of 341 bbls. a day after acidizing. Government test for permanent allowable will be made this month.

In Section 17-18-2w5, Extension Royalties No. 1, LSD 14, finished at 7,843 feet and has run tubing for official test. A test of the upper porous horizon of the lime through drill stem gave 284 bbls. in 27 hours, and the lower zone is reported exceptionally porous. Anglo-Canadian Oil Co. No. 3, LSD 10, same section, is below 7,533 feet after getting the Madison limestone at 7,270 feet.

In the far south end of the field, D. & D. Oils No. 1, LSD 12, Section 9-18-2w5, is deepening after cementing 6⅝-inch casing in the top of the Madison at 6,870 feet.

In North Turner Valley, Home Oil Co. No. 2 Millarville, LSD 6, Section 33-20-3w5, is deepening below 8,309 feet after temporary shutdown due to frozen water lines. It had a fair commercial production, estimated 600 bbls. a day, in the upper horizon at 8,237 feet.

New Quotas Expected

New tests by the Conservation Board are expected to be completed in Turner Valley early this month, after which new allowables will likely be set for the various crude producers. Potential production of the field is unofficially estimated around 61,000 bbls. a day, with aggregate allowable of 12,500 bbls.

West Side Drilling

In Section 5-19-2w5, West Central Turner Valley, Calwin Royalties No. 1, LSD 15, has rotary outfit rigged ready to spud. Winalta Royalties No. 1, LSD 1, same section, is rigging rotary equipment. Both outfits were leased from Calmont Oils, Ltd. Royalite Oil Co. No. 37, LSD 11, is in the Blairmore formation below 6,329 feet.

In Section 6-19-2w5, East Crest Oil Co. No. 4, LSD 8, is below 4,018 feet, after a shutdown due to frost.

In Section 32-18-2w5, George Harris and associates No. 2, LSD 15, is below 470 feet. Oil Ventures No. 1, LSD 14, is below 43 feet. Location is on acreage previously held by Freehold Oil Corp. and Shamrock Petroleums, Ltd., and the test is being financed chiefly by Neil McQueen and associates of Vancouver. Royalite Oil Co. No. 36, LSD 13-14, is in the Blairmore below 6,813 feet and getting close to the Madison. British Colonial Oils No. 1, LSD 5, has resumed from 2,150 feet after setting 10-inch casing and changing to rotary outfit. In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 4, LSD 6, is working on derrick. In Section 9-18-2w5, George Harris and associates No. 1, LSD 13, is below 1,035 feet, corrected depth. West of the proven crude area, Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, is below 4,205 feet after getting the Belly River-Benton contact at 4,000 feet. Royalite Oil Co. No. 38, LSD 16, Section 8-18-

(Continued on Page 111)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company well location, and county—	S.T.R.	Depth	Status
Douglas & Stratton, No. 1 Los Alamos, S. Barbara	8- 8-33	7,237	bail water
Richfield Oil, No. 1 Tinaquaic, Foxen Can., S. Barb.	36- 9-32	3,160	sd. sh. drlg.
United West Oil, No. 1 Los Olivos, Santa Barbara	16- 7-30	3,270	resume work
Ventura Drlg., No. 1 Ojai, Ventura	10- 3-23	2,230	idle
High Mesa Oil, No. 1 Butcher. Ojai, Ventura	16- 4-22	1,821	idle
Claran Oil, No. 1 Hardison, Sespe, Ventura	22- 4-20	2,480	sd. sh. drlg.
Merchants Pet., No. 8 Hillside, Sespe, Ventura	1- 4-20	1,545	reaming
Ivers, H. A., No. 14 Kentuck, Sespe, Ventura	1- 4-20	462	sd. sh. drlg.
Speik Oil, No. 2 Speik, Sespe, Ventura	33- 5-19	3,635	cleaning out
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	1,994	rig to pump
Section 20 Oil, No. 1 Sespe, Ventura	20- 5-19	2,399	sd. sh. drlg.
Texas Co., No. 136 Shiells, Shiells Canyon, Ventura	4- 3-19	1,687	sd. sh. drlg.
Brain, P., No. 1 Cosby, Hopper Canyon, Ventura	14- 4-19	1,151	idle
Continental Oil, No. 10 Grubb, San Miguelito, Vent.	24- 3-24	4,188	sd. sh. drlg.
C. C. M. Oil, No. 6-A Hobson, Padre Canyon, Vent.	15- 3-24	5,426	flow 130 b.d.
Ridge Oil, No. 1 Fox, Padre Canyon, Ventura	9- 3-24	8,000	sd. sh. drlg.
Tide Water A. O., No. 36 V.L.W., Vent. Ave., Vent.	25- 3-23	9,070	sd. sh. drlg.
Tide Water A. O., No. 40 V.L.W., Vent. Ave., Vent.	25- 3-23	5,770	sd. sh. drlg.
Tide Water A. O., No. 81 Lloyd, Vent. Ave., Vent.	27- 3-23	8,980	O.S. drlg.
Tide Water A. O., No. 123 Lloyd, Vent. Ave., Vent.	27- 3-23	5,570	sd. sh. drlg.
Tide Water A. O., No. 126 Lloyd, Vent. Ave., Vent.	27- 3-23	10,115	flow 1,609 b.d
Tide Water A. O., No. 128 Lloyd, Vent. Ave., Vent.	27- 3-23	8,751	hd. sh. drlg.
Tide Water A. O., No. 134 Lloyd, Vent. Ave., Vent.	27- 3-23	8,339	redrlg. 5,840
Tide Water A. O., No. 8 Hartman, Vent. Ave., Vent.	22- 3-23	2,060	sd. sh. drlg.
Shell Oil, No. 97 Taylor, Ventura Ave., Ventura	21- 3-23	7,785	sd. sh. drlg.
Shell Oil, No. 32 Edison, Ventura Ave., Ventura	21- 3-23	8,470	flow 3,003 b.d.
Brit. Amer. Oil, No. 7 Bolsa, Ventura Ave., Ventura	22- 3-23	6,770	P.B. 4,370
Alliance Pet., No. 3 Hisey, Ventura Ave., Ventura	21- 3-23	296	sd. sh. drlg.
Belridge Oil, No. 35-36-A, North Belridge, Kern	35-27-20	5,905	br. sh. drlg.
Belridge Oil, No. 26-25, North Belridge, Kern	26-27-20	7,960	sd. sh. drlg.
Belridge Oil, No. 28-2, North Belridge, Kern	28-27-20	5,780	br. sh. drlg.
Tide Water A. O., No. 23-3, North Belridge, Kern	22-27-20	3,668	sd. sh. drlg.
Richfield Oil, No. 3, North Belridge, Kern	22-27-20	2,952	sd. sh. drlg.
Shell Oil, No. 1 S.P.L., South Round Mountain, Kern	7-29-30	3,370	sd. sh. drlg.
Helm & Smith, No. 11-A Kern, Kern River, Kern	34-28-28	680	sd. sh. drlg.
Angle, D. D., No. 2 Claffin, Mount Poso, Kern	1-27-27	3,430	idle
Richfield Oil, No. 1, Union Avenue, Kern	5-30-28	8,790	reaming
O'Reily, F., No. 1 Berree, Edison, Kern	5-30-29	2,502	idle
Wood-Callahan Oil, No. 4 Community, Edison, Kern	21-30-29	3,220	gr. sd. drlg.
West. Gulf Oil, No. 41-B, KCL, Fruitvale, Kern	22-29-27	1,960	sd. sh. drlg.
West. Gulf Oil, No. 1 Ansolabehere, Fruitvale, Kern	14-29-27	1,498	sd. sh. drlg.
Renner, G. E., No. 2 R.H.L., Sivert, Kern	27-30-30	2,550	sd. sh. drlg.
Hillview Oil, No. 1 Tejon, Caliente Creek, Kern	11-30-30	512	sd. sh. drlg.
Continental Oil, No. 4-A KCL, Wasco, Kern	8-27-24	5,370	sd. sh. drlg.
Standard Oil, No. 2 Mushrush, Wasco, Kern	7-27-24	5,770	sd. sh. drlg.
Cal. Lands, Inc., No. 1 Salisbury, Buttonwillow, Kern	7-29-24	10,750	sd. sh. drlg.
Union Oil, No. 7-34, KCL, Rio Bravo, Kern	34-28-25	11,250	sd. sh. drlg.
General Pet., No. 3 Wagoner, Rio Bravo, Kern	35-28-25	11,363	sd. sh. drlg.
General Pet., No. 3 Van Ness, Rio Bravo, Kern	2-29-25	9,170	sd. sh. drlg.
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	11,903	P.B. 11,598
Standard Oil, No. 11-16, KCL, Greeley, Kern	20-29-26	8,892	sd. sh. drlg.
Standard Oil, No. 12-6 KCL, Greeley, Kern	30-29-26	2,487	sd. sh. drlg.
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	8,109	rigging up
Standard Oil, No. 1 Elrich, Greeley, Kern	20-29-26	10,602	sd. sh. drlg.
Superior Oil, No. 12 KCL, Greeley, Kern	3-30-26	10,200	sd. sh. drlg.
Shell Oil, No. 81-29-B, KCL, Ten Section, Kern	29-30-26	7,698	sd. sh. drlg.
Shell Oil, No. 34-14-A, KCL, Canal, Kern	14-30-25	8,521	O.S. drlg.
Shell Oil, No. 87-4-B, KCL, Canal, Kern	4-30-25	10,700	sd. sh. drlg.
Ohio Oil, No. 10-E, KCL, Canal, Kern	14-30-25	8,008	sd. sh. drlg.
Standard Oil, No. 1 Rio Bravo fee, Canal, Kern	12-30-25	8,280	O.S. drlg.
Richfield Oil, No. 1 KCL, Tupman, Kern	32-30-25	8,677	flow 1,575 b.d.
Ohio Oil, No. 2-F, KCL, Coles Levee, Kern	10-31-25	2,984	sd. sh. drlg.
Wilbent Oil, No. 2 Royer, Midway-Sunset, Kern	7-11-23	4,443	C.P. 3,730
Standard Oil, No. 201-13-D, Midway-Sunset, Kern	13-32-24	3,602	P.B. 3,235
Fried, Julius, No. 1 Fried, Midway-Sunset, Kern	34-32-24	5,035	recmtd. 3,100
National Oil, No. 31 Midway, Midway-Sunset, Kern	35-32-23	2,040	pump 145 b.d.
Standard Oil, No. 7-31 Western, McKittrick, Kern	7-30-22	2,050	rebldg. rig.
Wesco Pet., No. 1 West, McKittrick, Kern	34-30-22	3,370	br. sh. drlg.
Hall-Baker Co., No. 1 Williams, McKittrick, Kern	2-30-21	1,367	P.B. 1,341
Richfield Oil, No. 1 KCL, Wheeler Ridge, Kern	28-11-20	9,272	cmtd. 8,565
Tide Water A. O., No. 2 S.P., Tejon Ranch, Kern	15-11-19	6,250	sd. sh. drlg.
Progressive Oil, No. 3 East, Coalinga, Fresno	20-19-15	612	sd. sh. drlg.
Gen. Pet., No. 101 Esperanza, Coalinga, Fresno	6-20-15	1,169	pump 40 b.d.
Gen. Pet., No. 102 Esperanza, Coalinga, Fresno	6-20-15	987	sd. sh. drlg.
Lytle, R. S., No. 37-7-F, East Coalinga, Fresno	7-20-16	6,160	br. sh. drlg.
Lytle, R. S., No. 71-18-F, East Coalinga, Fresno	18-20-16	6,564	br. sh. drlg.
Standard Oil, No. 71-13-C fee, East Coalinga, Fresno	13-20-15	655	cmtd. fish
Standard Oil, No. 1-17-F fee, East Coalinga, Fresno	17-20-16	7,370	br. sh. drlg.
Superior Oil, No. 1 Cagle, East Coalinga, Fresno	6-20-16	6,990	br. sh. drlg.
Stuart Oil, No. 1 Alcalde, Alcalde, Fresno	12-21-14	1,268	bl. sh. drlg.
Union Oil, No. 4 King, Kettleman North, Fresno	29-21-17	8,520	redrlg. 8,086
K.N.D.A., No. 54-24-H, Kettleman North, Fresno	24-21-16	9,225	D.P. stuck
K.N.D.A., No. 6-16-Q, Kettleman North, Kings	16-22-18	6,980	sd. sh. drlg.
K.N.D.A., No. 65-20-Q, Kettleman North, Kings	20-22-18	7,651	cmtd. 7,116
K.N.D.A., No. 36-22-Q, Kettleman, North, Kings	22-22-18	6,974	sd. sh. drlg.
K.N.D.A., No. 78-22-Q, Kettleman North, Kings	22-22-18	6,003	br. sh. drlg.
Standard Oil, No. 46-13-H, Kettleman North, Fresno	13-21-16	11,030	flow water
Standard Oil, No. 56-1-P, Kettleman North, Kings	1-22-17	5,959	fish D.P.
Standard Oil, No. 76-7-Q, Kettleman North, Kings	7-22-18	5,490	cmtd. 5,358
Cal. Pet. Prod., No. 1 Irons, Cuyama, S. Luis Obispo	19-10-24	1,830	rd. sh. drlg.
Epco, Inc., No. 1 Ajax, Union, San Luis Obispo	27-26-13	3,490	sd. sh. drlg.
Arnold, V. F., No. 1 Yellow King, Ducor, Tulare	9-23-28	232	hd. sd. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company well location, and county—	S.T.R.	Depth	Status
Antelope Valley Oil, No. 1 Palmdale, Los Angeles	17- 6-12	1,078	sd. sh. drlg.
Mojave Pet., No. 1 Hillside, Gorman, Los Angeles	5- 8-18	498	sd. sh. drlg.
Texas Co., No. 1 Anderson, Ocean Park, Los Angeles	17- 2-15	7,285	redrlg. 3,798
Rolling Hills Pet., No. 1 Weston, Palos Verdes, L. A.	27- 4-14	5,100	cmtd. 5,050
Rolling Oil, No. 1 Autry, Torrance, Los Angeles	23- 4-14	5,150	sd. sh. drlg.
Cinco Oil, No. 1 Woodruff, Torrance, Los Angeles	23- 4-14	3,600	rigged up
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,807	rigged up
Hart Pet., No. 1 Neher, Torrance, Los Angeles	23- 4-14	5,127	sd. sh. drlg.
Hunt. Signal Oil, No. 1 Clarke, Torrance, L. Angeles	23- 4-14	3,795	will deepen
Kirk, W. A., No. 5 Lomita, Torrance, Los Angeles	23- 4-14	5,098	resume work
Kovell Oil, No. 1 Deep Hole, Torrance, Los Angeles	23- 4-14	186	sd. sh. drlg.
Logan Pet., No. 1 Hadley, Torrance, Los Angeles	23- 4-14	5,145	sd. sh. drlg.
Lebow, C. H., No. 1 fee, Torrance, Los Angeles	23- 4-14	2,584	sd. sh. drlg.
Pacific West. Oil, No. 11 Marble, Torrance, L. A.	15- 4-14	4,790	redrlg. 3,219
Pettijohn, J. F., No. 1 Marilou, Torrance, L. A.	23- 4-14	5,150	P.B. 5,128
Paso Oil, No. 1 Lyle, Torrance, Los Angeles	22- 414	4,951	sd. sh. drlg.
Standard Oil, No. 1-2 Marble, Torrance, L. A.	15- 4-14	3,828	redrlg. 3,398
Tiger Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,284	sd. sh. drlg.
Westside Oil, No. 3 Exeter, Torrance, Los Angeles	23- 4-14	4,110	sd. sh. drlg.
Whit. S. F. S. Synd., No. 1 Lomita, Torrance, L. A.	23- 4-14	3,682	sd. sh. drlg.
West Basin Oil, No. 1 Eyster, Torrance, Los Angeles	23- 4-14	4,698	sd. sh. drlg.
C. C. M. O., No. 15, Torrance, Los Angeles	14- 4-14	4,979	flow 170 b.d.
C. C. M. O., No. 18, Torrance, Los Angeles	14- 4-14	5,010	pump 25 b.d.
C. C. M. O., No. 12 Kittler, Torrance, Los Angeles	14- 4-14	3,825	will deepen
D. & B. Oil, No. 3 Lomita, Harbor City, Los Angeles	25- 4-14	5,055	sd. sh. drlg.
General Pet., No. 1 Poggi, Harbor City, Los Angeles	25- 4-14	4,650	sd. sh. drlg.
Macrate, A. N., No. 2 Kupfer, Harbor City, L. A.	30- 4-13	5,085	sd. sh. drlg.
O'Donnell, J. L., No. 44 Oakley, Harbor City, L. A.	30- 4-13	5,284	P.B. 5,249
Richfield Oil, No. 1 Capitol, Harbor City, L. A.	30- 4-13	5,235	pump 135 b.d.
Sunset Oil, No. 2 Security, Harbor City, Los Angeles	25- 4-14	5,324	O.S. drlg.
Texas Co., No. 2 Oakley, Harbor City, Los Angeles	30- 4-13	6,109	P.B. 5,165
Union Oil, No. 65 Callender, Dominguez, L. A.	32- 3-13	7,365	flow 890 b.d.
Union Oil, No. 49 Hellman, Dominguez, L. A.	33- 3-13	8,942	fish D.P.
Shell Oil, No. 97 Reyes, Dominguez, Los Angeles	33- 3-13	6,670	sd. sh. drlg.
O'Donnell, J. L., No. 46 Mail, Rosecrans, L. Angeles	19- 3-13	7,750	flow 750 b.d.
Bankline Oil, No. 1 Kirby, Rosecrans, Los Angeles	20- 3-13	7,655	fish D.P.
Barnsdall Oil, No. 10 Rosecrans, Rosecrans, L. A.	20- 3-13	6,508	flow 290 b.d.
Union Oil, No. 27 Rosecrans, Rosecrans, L. Angeles	19- 3-13	7,810	flow 480 b.d.
Union, Oil, No. 29 Rosecrans, Rosecrans, L. Angeles	19- 3-13	7,765	sd. sh. drlg.
Union Oil, No. 30 Rosecrans, Rosecrans, L. Angeles	19- 3-13	7,398	sd. sh. drlg.
Universal Consd., No. 14 Trust, Rosecrans, L. A.	18- 3-13	6,940	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulling pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg., or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shut off O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Superior Oil, No. 12 Maxwell, Rosecrans, L. Angeles	19- 3-13	8,852	P.B. 8,300	
Hydrocrabon Prod., Inc., No. 1 Cole, Rosecrans, L. A.	19- 3-13	7,750	flow 750 b.d.	
Hydrocarbon Prod., Inc., No. 1 Duchess, Rose., L. A.	19- 3-13	7,596	sd. sh. drlg.	
Royalty Ser. Corp., No. 3 Gordon, Rosecrans, L. A.	19- 3-13	7,560	O.S. drlg.	
Basin Oil, No. 3 Club, Potrero, Los Angeles	34- 2-14	3,588	sd. sh. drlg.	
Mojave Pet., No. 2 Jennings, Newhall, Los Angeles	33- 5-14	480	sd. sh. drlg.	
Mangrum & Page, No. 1 Lintz, Newhall, L. Angeles	4- 3-15	198	sd. sh. drlg.	
O'Donnell, J. L., No. 1 Hammond, Newhall, L. A.	8- 3-16	4,305	rigged up	
General Pet., No. 33 Harbor, Wilmington, L. A.	2- 5-13	3,235	O.S. drlg.	
General Pet., No. 37 Harbor, Wilmington, L. A.	2- 5-13	3,079	O.S. drlg.	
General Pet., No. 14 S.P., Wilmington, Los Angeles	2- 5-13	4,000	flow 1,040 b.d.	
Allied Pet., No. 30 Harbor, Wilmington, Los Angeles	35- 4-13	5,683	P.B. 3,348	
Hollywood Oil, No. 5 Baxter, Wilmington, L. A.	2- 5-13	3,712	flow 440 b.d.	
Richfield Oil, No. 16 P.D., Wilmington, Los Angeles	2- 5-13	2,398	sd. sh. drlg.	
Union Pacific R. R., No. 94, Wilmington, L. Angeles	4- 5-13	5,660	P.B. 5,596	
Union Pacific R. R., No. 96, Wilmington, L. Angeles	4- 5-13	3,257	flow 112 b.d.	
Union Pacific R. R., No. 97, Wilmington, L. Angeles	4- 5-13	3,115	sd. sh. drlg.	
Union Pacific R. R., No. 98, Wilmington, L. Angeles	4- 5-13	2,910	sd. sh. drlg.	
Union Pacific R. R., No. 12-E, Wilmington, L. A.	34- 4-13	2,172	sd. sh. drlg.	
Grady, R. T., No. 1 Associates, San Pedro, L. Angeles	23- 5-14	614	idle	
Seacliff Pet., No. 1 Club, Montebello, Los Angeles	3- 2-12	715	cleaning out	
Olympic Refining, No. 1 Smith, Montebello, L. A.	2- 2-12	6,493	sd. sh. drlg.	
St. Helens Pet., No. 28 Monterey, Montebello, L. A.	2- 2-12	6,730	flow 2,150 b.d.	
St. Helens Pet., No. 30 Monterey, Montebello, L. A.	2- 2-12	2,870	sd. sh. drlg.	
Standard Oil, No. 2 Braun, Montebello, Los Angeles	2- 2-12	5,496	sd. sh. drlg.	
Standard Oil, No. 4 Braun, Montebello, Los Angeles	2- 2-12	4,362	sd. sh. drlg.	
Standard Oil, No. 5 Braun, Montebello, Los Angeles	2- 2-12	4,284	sd. sh. drlg.	
Standard Oil, No. 1 McDonald, Montebello, L. A.	2- 2-12	6,675	O.S. drlg.	
Union Oil, No. 1 Calkins, Montebello, Los Angeles	2- 2-12	6,480	sd. sh. drlg.	
Union Oil, No. 4 Howard & Smith, Montebello, L. A.	2- 2-12	6,070	sd. sh. drlg.	
Union Oil, No. 30 La Merced, Montebello, L. Angeles	1- 2-12	716	sd. sh. drlg.	
Pangratz Oil, No. 1 Newmark, Montebello, L. A.	3- 2-12	2,277	sd. sh. drlg.	
McVicar & Rood, No. 3 Manz, Montebello, L. A.	2- 2-12	5,996	sd. sh. drlg.	
Mont. Wesco, Inc., No. 1 Mont., Montebello, L. A.	2- 2-12	6,693	flow 590 b.d.	
Herley-Kelly, Inc., No. 2 Burke, Montebello, L. A.	2- 2-12	2,140	sd. sh. drlg.	
West Mont. Oil, No. 2 Extension, Montebello, L. A.	2- 2-12	6,690	deepening	
H. & C. Oil, No. 1 Joyce, Whittier, Los Angeles	22- 2-11	632	sd. sh. drlg.	
Texas Co., No. 6 Baldwin, Santa Fe Springs, L. A.	6- 3-11	6,880	reaming	
Massey & Asso., No. 1 Taylor, Long Beach, L. A.	19- 4-12	4,745	rig to pump	
Parry & Co., No. 1 Associates, Long Beach, L. A.	29- 4-12	6,770	sd. sh. drlg.	
Texas Co., No. 1-13-A Smith, Anaheim, Orange	8- 4-10	4,730	sd. sh. drlg.	
Brea Canyon Oil, No. 49 Brea, Brea Canyon Orange	2- 3-10	3,590	hd. sd. drlg.	
Shell Oil, No. 20 Orange, Brea Canyon, Orange	2- 3-10	7,275	sd. sh. drlg.	
Battersby, J. M., No. 1 Associates, Carmenita, Orange	21- 3-11	8,965	P.B. 8,950	
Goodrich Oil, No. 1 Paige, Richfield, Orange	22- 3- 9	3,114	cmtd. 3,060	
Southwest Expl., No. 4 State, Hunt. Beach, Orange	10- 6-11	4,066	pump 230 b.d.	
Southwest Expl., No. 5 State, Hunt. Beach, Orange	10- 6-11	3,270	sd. sh. drlg.	
Southwest Expl., No. 6 State, Hunt. Beach, Orange	10- 6-11	2,291	sd. sh. drlg.	
Southwest Expl., No. 14 State, Hunt. Beach, Orange	10- 6-11	2,188	sd. sh. drlg.	
Shell Oil, No. 1 Irvine, Corona Del Mar, Orange	6- 7- 9	3,108	dry; abd.	
Shell Oil, No. 2 Irvine, Corona Del Mar, Orange	6- 7- 9	1,384	sd. sh. drlg.	
Dauphin Dev., No. 1 Irwin, Ponto, San Diego	16-12 -4	806	fish D.P.	
Palm City Oil, No. 1 Palm City, San Diego	21-18 -2	181	sd. sh. drlg.	
So. Count. Pet., No. 1 Serranos, San Bernardino	22- 2- 8	2,820	idle	

KANSAS

Week Ending January 7 (Descriptions are East unless marked otherwise)

Barton County

Amerada Pet. Co. No. 1 Kruckenberger, C NE NE Sec. 14-19-15w. Lans. 3,260 ft.; drlg. 3,505 ft.

Long & Johnson No. 1 Eveleigh, SW SW NE Sec. 3-18-14w. Lansing 3,100 ft.; Arb. 3,338 ft.; 2,000 ft. O.I.H.; S.D. for csg.

I. W. Murfin No. 1 Birzer, NE SW Sec. 21-19-11w. S.D. 2,250 ft.

Sinclair Prairie No. 1-A Pichner, NE SE SE Sec. 10-16-11w. Drlg.

Virginia Drlg. Co. No. 1 Clawson, SW NW Sec. 17-20-11w. Lans. 3,054 ft.: Arb. 3,285 ft.; T.D. 3,299 ft.; S. 150 B.O. in 5 hrs.; P. 226 B.O. in 5 hrs.; pot. 679 bbls.; comp.

Butler County

Bowland & McCoy No. 1 Frankson, SE SW Sec. 2-29-6. Drlg. 165 ft.

H. L. Turner No. 1 Black, SE NE NW Sec. 3-27-13. Drlg. 1,758 ft.

Harvey County

Lanahan Drlg. No. 1 Lagree, SE SE Sec. 4-23-3w. T.D. 280 ft.; S.D.

Kingman County

Duwe & Farris No. 1 Kimminau, NE NW SW Sec. 12-30-9w. Loaded hole 2,500 B.W.; drld. plug and rec. 4,000 ft. W. I.H. in 30 min.

McPherson County

Marylyn Oil No. 1 Dixon. NW NE NW Sec. 7-19-2w. T.D. 3,018 ft.; swb. 30 B.O. in 12 hrs.

Marion County

Cox & McGinnis and Saco Oil Co. No. 1 Jolliffe, C S½ SW SE Sec. 2-22-5. S.D. 2,520 ft.

Johnson et al No. 1-A Miltz, SW SW SW Sec. 24-17-4. T.D. 2,380 ft.; 300 ft. O. I.H.; no test.

Mead County

Pacific Midwest Oil No. 1 Rexford, NE SE SW Sec. 8-30-29w. S.D. 1,435 ft.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; C.O. 1,200 ft.

Ottawa County

Babcock Oil No. 1 Copeman. NW NW Sec. 18-10-2w. Miss. 2,835 ft.; set 8-in. 3,250 ft.; C.O.

Pratt County

Champlin Ref. Co. No. 1 Elliott, SW NE Sec. 26-27-14w. Fsg. 4,857 ft.

Rice County

Cities Service No. 1 DeWitt, CSL NE Sec. 33-19-9w. Drlg. 2,340 ft.

Frank Hollow No. 1 Hohl Est., NW NE Sec. 3-18-10w. Set 10-in. 1,895 ft.; C.O.

Spurrier & Bruce No. 1 Cary, NE NW NW Sec. 30-18-8w. O.W.D.D.; O.T.D. 1,530 ft.; S.D. 1,680 ft.

J. H. Tatlock No. 1 L. C. Proffitt, SW SE SW Sec. 12-20-10w. Lansing 3,025 ft.; Arb. 3,327-3,335 ft., T.D.; P. 99 B.O. in 8 hrs.; pot. 298 B.O.

Rooks County

Phillips Pet. Co. No. 1 Tanzey, C NW SW Sec. 25-8-18w. Arb. 3,418-3,423 ft., T.D. 3,424 ft.; acd. and swb. 21 B.F.

Producers No. 1 Ham (O.W.D.D.), SW SW NW Sec. 25-7-19w. O.T.D. 1,800 ft.; T.D. 3,040 ft.; S.D. for csg.

Higgens & Pierce No. 1-A Shrieves, NE NW SE Sec. 2-26-4. U.R. 940 ft.

Simpson & Estes No. 1 Farm, SE NE NE Sec. 30-27-7. Miss. 2,784-91 ft.; fsg.

Cowley County

Barnsdall No. 1 Snodgrass, NW SE Sec. 36-30-6. Drlg. 1,500 ft.

Brewer & Blair No. 1 Miller, NE NW NE Sec. 13-32-5. Drlg. 260 ft.

Ben Graiapp et al No. 1-A Clark, NW NW NE Sec. 11-31-3e. Drld. cmt. and P.B. 3,000 ft.

Dickinson County

Franks et al No. 1 Huffman, NW SW Sec. 11-13-1. Drlg. 1,600 ft.

Ellis County

Bridgeport No. 1 Froelich, CWL SW Sec. 34-12-16w. Drlg. 350 ft.

C. L. Carlock No. 1 Philip, SE SW NE Sec. 10-15-17w. Drlg. 2,555 ft.

Cities Service No. 1 Hall "D," C NW Sec. 2-12-17w. Arb. 3,593 ft.; T.D. 3,603 ft.; P. 225 B.O. in 8 hrs.; pot. 765 B.O.P.D.; comp.

Darby Pet. No. 1 Peavey, NW NW NE Sec. 24-11-18w. T.D. 3,456 ft.; swb. 110 B.O. in 15 hrs.

Graham County

Continental Oil Co. No. 1 Drumm Comm. Co., SE SE NE Sec. 16-9-21w. R.R.

Continental Oil Co. No. 1 Putnam Inv. Co., CWL SW Sec. 3-9-21w. Drlg. 3,050 ft.

Greenwood County

Hancock et al No. 1 Rousch, C S½ SE NW Sec. 8-28-13. T.D. 1,530 ft.; S.D.

Russell County

K. F. Nelson No. 1 Polcyn, SW Sec. 31 13-15w. Drlg. 3,377 ft.

Phil-Han No. 1 Weimeister, SW Sec. 1 14-13w. Top pay 2,655 ft.; perf. and acd. and swb. ½ B.O.P.H.; to P.B.

R. H. Shields No. 1-A Gross, CSL SW SE Sec. 5-15-13w. Drlg. 1,685 ft.

W. I. Southern No. 1 Sellens, SW cor. Sec. 22-15-13w. Arb. 3,352-54 ft.; shot 3,188-96 ft.; acd. and P. 45 B.O. and 70 B.W. in 8 hrs.; pot. 153 B.O. and 30% wtr.; comp.

Earl Wakefield No. 1 Meharg, SE SE SE Sec. 16-15-13w. Top pay 3,099 ft.; T.D. 3,112 ft.; est. 150-200 B.O.P.D.; 40 grav.

Yankey & Stearnes No. 1 Krog, NW SE NW Sec. 7-15-13w. Top pay 3,324-? ft., T.D.; pmp. 225 B.O. in 8 hrs.; pot. 795 B.O.; comp.

Saline County

Central States Oil Co. No. 1 Crawford, NW SW NE Sec. 26-13-3w. Drlg. 1,100 ft.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE Sec. 35-28-1e. U.R. 2,356 ft.

Stafford County

Stanolind O. & G. Co. No. 1 Curtis, SW cor. Sec. 31-21-12w. Viola 3,544 ft. Arb. 3,638 ft.; R.U.S.T. 3,640 ft.

Virginia Drlg. Co. No. 1 Schlockter-meyer, SE NW Sec. 7-21-11w. S.D. 247 ft.

Sumner County

Earl Henderson No. 1 King, NE NE NE Sec. 22-31-4. Drlg. 2,540 ft.

Wabaunsee County

Fowler & Tague et al No. 1 Aye, NW SW NW Sec. 10-12-8. S.D. 200 ft.

Woodson County

Klapton et al No. 1 Poston, NE NE SE Sec. 31-26-14. Drlg. 1,305 ft.

M. J. Trott No. 1 Abbott, NW NE NE Sec. 21-25-14e. Drlg. 1,325 ft.

Peters et al No. 1 Micawbee, SW SW SW Sec. 6-13-8. Set csg. 105 ft.

Okmulgee County

Jim Wise Drlg. Co. No. 1 Morrow, SW NW NE Sec. 16-15-13. S.D. 400 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1 21-5. U.R. 1,310 ft., T.D.

Payne County

Comail Oil Co. No. 1 Curran, SE SE SE Sec. 21-19-6. Drlg. 240 ft.

Starr O. & G. Co. No. 1 Georgia, SE SW NE Sec. 35-18-4. 1st Wlx. 4,051 ft.; 2d 4,083 ft.; T.D. 4,123 ft.; Sehlum. shows wtr.; S.D.O.

Pittsburg County

Phillips Pet. Co. No. 1 Hubacker, C NW NE Sec. 11-7-5. Drlg. 296 ft.

Supreme Oil Corp. No. 1 Hickey, NW SW NW Sec. 4-2-15. T.D. 1,040 ft.; S.D

Supreme Oil Corp. No. 1 Stevenson, SW SW SE Sec. 27-3-14. T.D. 1,300 ft.; M.I. rotary.

Pontotoc County

J. L. Casey No. 1 Pace, SW SW NE Sec. 14-2-7. Ran 5-in. 1,235 ft. and S.D.

H. Z. Moore No. 1 Payne, SE NW SE Sec. 16-4-4. T.D. 997 ft.; S.S.O.; S.D.

Union Dev. Co. No. 1-A Abbott, SW NW NE Sec. 34-3-6. S.D. 4,100 ft.

REGISTERED PROFESSIONAL ENGINEERS

GAS AIR WATER

REPRESSURING

INSTALLATION OPERATION

PETROLEUM ENGINEER

JO H CABLE

WICHITA FALLS TEXAS

GAS MEASUREMENT PERMEABILITY

COMPRESSOR PLANTS POROSITY

BOTTOM HOLE PRESSURE SATURATION

GAS OIL RATIOS RECOVERABLE OIL

CONTROL OF FLOW THRU FORMATION

REGISTERED PROFESSIONAL ENGINEERS

OKLAHOMA

Week Ending January 7

NORTHERN OKLAHOMA

Caddo County

Texas Co. No. 1 Smith, C NE NW Sec. 2-5-12w. T.D. 2,556 ft.; S.D.O.

Cleveland County

Burke-Greis No. 1 Alberts, SE SW NW Sec. 19-7-1w. Drlg. 6,170 ft.

Harper, Turner et al No. 1 Taylor, SE NE NW Sec. 23-8-2w. Drlg. 7,040 ft.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7.695 ft.; drove swb. down to 7,636 ft.

Coal County

Patsy Oil Co. No. 1 Spence, NW SE SE Sec. 19-2-8. S.S.O. 4,169-74 ft.; T.D. 5,381 ft.; D.&A.

Garfield County

Champlin Ref. Co. No. 1 Allen, SE SE SE Sec. 26-24-8w. Drlg. 4,245 ft.

Hughes Drlg. Co. No. 1 Meisner, C NE NW Sec. 10-20-4w. Drlg. 3,838 ft.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE Sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Grady County

Carter Oil Co. et al No. 1 Smith C-58, C SE SW Sec. 26-5-8w. S.S.O. 5,329-58 ft.; S.O. 5,433 ft.; cd. 5,964-76 ft.; rec. sh.; cd, 6,351-76 ft.; rec. hd. sd.; T.D. 6,613 ft.; set 9-in. csg. 6,602 ft.; W. O.C.

Greer County

S. T. Moore No. 1 Graumann, NE NW NW Sec. 11-5-21w. T.D. 560 ft.; abd.

Hughes County

Homer Doup et al No. 1 Bond, NE NE SW Sec. 7-7-9. S.D. 3,098 ft.

Phillips Pet. Co. No. 1 Mandler, SE SW SW Sec. 1-6-10. Viola 5,357 ft.; dolo. 5,435 ft.; dolo. 5,510 ft.; drlg. 5,990 ft.

Jackson County

Lippert No. 1 Howard, NE SW NW Sec. 10-3-19w; O.W.D.D. T.D. 1,675 ft.

Kay County

Crawford No. 1 Boehl, SE SE NW Sec. 34-27-2w. T.D. 1,040 ft.; fsg.

C. C. Nye No. 1 Wolfenbarger, SW NW SW Sec. 16-27-4. T.D. 3,201 ft., sd.

Kingfisher County

Burton Pet. Corp. No. 1 Zerger, C SE SW Sec. 5-18-6w. S.D. at 3,510 ft.; lost cones.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Drlg. 3,980 ft.

Kiowa County

Crawford & Zelliff No. 1 Kimray, SW SW NW Sec. 36-5-18w. S.D. 354 ft.

R. L. Emerson No. 1 Handcock, SE SE NE Sec. 26-6-15w. S.D. 520 ft.

Lincoln County

Fields & Nagle No. 1 Black, SE SE SE Sec. 31-16-6; O.W.D.D. T.D. 3,980 ft.; tstg.

Muskogee County

Heydrick No. 1 Paschall, NE SE NW Sec. 22-13-19. S.D. 1,446 ft.

Okfuskee County

Mead Prod. Co. No. 1 Pine, SW SW NW Sec. 14-12-11. Drlg. 3,360 ft.

Want to

STEP AHEAD?

Reading important oil books is the surest route to

SUCCESS

For a FREE list of such oil books just address

THE OIL AND GAS JOURNAL

Pottawatomie County

Wood Oil Co. No. 1 Peters, SW SE NW Sec. 28-8-4. D.S.T. 4,118 ft., T.D.

Seminole County

Atlantic Ref. Co. No. 1 Atkinson, NW NW SW Sec. 17-6-6. Drlg. 2,460 ft.

Lesslie Rogers No. 1 Kidd, NE SW SE Sec. 33-10-8. T.D. 200 ft.; S.D.

H. S. Mass No. 1 Leachman, C N½ SE NE Sec. 34-10-6. Drlg.

W. C. Wood No. 1 Aldridge, SW NW NE Sec. 5-8-8. Drlg. 1,405 ft.

Sequoyah County

Thompson Brs. No. 1 Ruby, NW NW NE Sec. 30-12-22. S.D. 100 ft.

Stephens County

Phillips Pet. Co. No. 1 Culbertson, NW NW SE Sec. 4-1-5w. Drlg. 3,112 ft.

Texas County

Republic Nat. Gas Co. No. 1 Dulabohn, C Sec. 21-6n-15ecm. Drlg. 2,365 ft.

Republic Nat. Gas Co. No. 1 Judd, CSL SW Sec. 24-6n-15ecm. T.D. 2,870 ft.; gas 7,100,000 ft.

Washita County

Continental Oil Co. No. 1 Proctor ' NW Sec. 28-10-20w. Rmg. at 8,675 ft.: T.D. 10,195 ft.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,190 ft.; tools stk.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. Drlg. 4,126 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. T.D. 1,340 ft.; S.D.

Cotton County

Jim Turner No. 5 Collins, C NE NE Sec. 18-4s-10w. O.&W. 1,222-28 ft.; oil sd. 1,232 ft.; T.D. 1,380 ft.; D.&A.

Jefferson County

Bredwell Oil No. 1-I Seay, SE NE SW Sec. 29-6s-5w. Drlg. 1,453 ft.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; milling surf. pipe.

Tillman County

Smith No. 2 Hammel, NE NW NW sec 6-5s-15w. T.D. 2,380 ft.; recvd. D.P. and S.D.

ARKANSAS

Calhoun County

J. E. Murdock No. 1 Southern Craft Corp., SE cor. NW NW sec. 17-14-13. Top Nac. 2,372 ft.; top Tokio 2,920 ft. S.D. 3,291 ft.; M.I. fuel to dpn.

Columbia County

Atlantic Ref. Co. No. 1 Barnette, C SW SE Sec. 14-17-20. 10⅝-in. csg. 2,250 ft.; drlg. sd.&sh. 5,902 ft.

Normandie Oil Corp. No. 1 L. Garrett, C NE NE Sec. 23-17-20. 9⅝-in. csg. 2,-230 ft.; T.C.V. 5,375 ft.; T. Smkvr. 7,-306 ft.; T. dense L. 7,328 ft.; cd. 7,-344-64 ft.; T. por. L. 7,354 ft.; drld. to 7,405 ft.; cg. ahead.

Pet. Finance Co. No. 1 Garrett, C SW SW Sec. 13-17-20. M.I. rig.

Southwood Oil Co., Inc., No. 1 J. O Hutcheson, C NE SW Sec. 14-17-20. R.U.

Standard Oil Co. of La. No. 3 Crone, SW cor. NE SW Sec. 8-16-22. Drlg. chk. 2,085 ft.

Standard Oil Co. of La. No. 1 Lewis Unit, SE cor. NW NE Sec. 15-17-19. Drlg. sh. 3,840 ft.

Standard Oil Co. of La. No. 1 Minnie Harris, NE cor. NE SW Sec. 15-17-19. Drlg.

Hot Spring County

John H. James No. 1 Sturgess Lbr. Co., SW cor. SW SE Sec. 24-6-18. 10-in. csg. 58 ft.; S.D. 600 ft.

Lafayette County

Shell Pet. Corp. & Ohio Oil Co. No. 1 Warren, C SE SE Sec. 13-16-24. 13⅜-in. 194 ft.; 9⅝-in. 2,272 ft.; T. Bknr. 6,920 ft.; cg. 7,112 ft.

Wadley-Erwin et al No. 1 G. W. Taylor, C NE SW Sec. 15-19-26. 13⅜-in. csg. 447 ft.; T.D. 4,839 ft.; wshg. to bttm.

Little River County

Barbee et al No. 1 Ada Mills, SE cor. SW NW Sec. 18-12-29. R.U.

C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. S.D. 1,170 ft. hd. sd.

Harford Oil Corp. No. 1 Pinning, C NE NE SW Sec. 6-13-30. S.D.; W.O. 1,-925 ft.

Joe G. Strahan et al No. 2 Dierks Lbr. Co., Sec. 21-12-28. S.D. 3,661 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson Townsite, Sec. 18-4n-9w. Set 4½-in. csg. on pkr. 1,540 ft.; D.&A. hd. L. 2,760 ft.

J. W. Eddington No. 1 Anderson. S.D. 800 ft.

Lonoke-Prairie Dev. Co. No. 1 T. Young, C NW NW Sec. 8-3n-7w. D.S. stuck 736 ft.

Miller County—Rodessa

Gerhig Co. No. 1 Watson, SE cor. N SE Sec. 2-20-28. 9⅝-in. csg. 970 ft.; perf. 6,209-30 ft.; comp.; 297 B.P.D.; ¼-in. ck.; T.P. 500 lbs.; C.P. 1,100 lbs.; T.D. 6,248 ft.

Gulf Ref. Co. No. 5 Johnson, SW cor. Sec. 29-15-15. R.U.

F. W. Martin Drlg. Co. No. 1 Bloomburg State Bnk., C SE NE Sec. 2-20-28. Set 9⅝-in. csg.; 7-in. csg.; T.D. 6,303 ft.; comp.; 300 B.P.D.; ¾-in. ck.; T.P. 300 lbs.; perf. 6,268-74 ft.

F. W. Martin No. 1 Watson et al, SW cor. NW SE Sec. 2-20-28. Drlg. L. 5,-250 ft.

F. W. Martin No. 2-A Watts, 335 ft. E, 330 ft. N, SW cor. SW NE Sec. 2-20-28. Loc.

F. W. Martin Drlg. Co. No. 1-B Watts, C S NW NW Sec. 1-20-28. Por. L. 6,273-6,304 ft.; S.W. with light stain and odor oil; W.O.

Mrs. S. O. Thompson No. 1 Gen. Am. Life Ins. Co., SE cor. SE SW Sec. 20-14-26. Cd. 3,657 ft.; slightly por. sdy. L.; D.S. stk.; T.D. 3,825 ft.; D.S.T. 3,-677-95 ft.; tstd. 15 thribbles S.W.; 8 min.; S.D.; W.O.; 3,851 ft.

Mississippi County

Benedum & Trees Oil Co. No. 1 Mack, 330 ft. SW cor. NW SW Sec. 2-15n-12e. Top Nac. 2,160 ft.; set 7-in. csg. 2,897 ft.; S.D. 3,650 ft.; (cor.).

Nevada County

Benedum & Trees Oil Co. No. 1 T. Erby, SW cor. SW SW Sec. 3-14-20. M.I.R.

C. D. & F. Pet. Co. No. 1 P. T. Grayson, SW cor. NW SE Sec. 4-14-20. Drlg. sh.&L. 1,735 ft.

Texas Canadian Oil Co. No. 3 Stocks, C SW NE Sec. 9-15-22. 10-in. csg. 20 ft.; 7-in. csg. 1,341 ft.; T. Nac. 1,183 ft.; ripped csg. 1,204 ft.; bld. S.W.; W.O.C.

Ouachita County

Deep Rock Oil Corp. No. 1 C. Wesson, SE cor. NE Sec. 23-15-19. R.U.

Union County—Schuler

E. M. Jones No. 1 J. C. Morgan, SE NW Sec. 13-18-18. Set 16-in. 144 ft. and 10¾-in. csg. 2,154 ft.; W.O.C. 2,612 ft.

E. M. Jones No. 2 J. C. Morgan, SE cor. NE NW Sec. 13-18-18. Drlg. 560 ft.

E. M. Jones No. 3-B Murphy Ld. Co., SW cor. SE NE Sec. 13-18-18. Drlg. T. Jones sd. 7,508 ft.; T. L. 7,612 ft.; T. Rey. L. 7,635 ft.; T.D. 7,690 ft.; 7-in. 7,681 ft.; perf. 7,632-37 ft.; comp.; 250 B.P.D.; 12/64-in. ck.; T.P. 1,200 lbs.; C.P. 1,250 lbs.

Lion Oil Ref. Co. No. 1 Edna, SE cor. NE NE Sec. 18-18-17. Drlg. rd. sdy. sh. 7,094 ft.

Lion Oil Ref. Co. No. 6 Marcus, C Lot 3, SW Sec. 18-18-17. Set 16-in. csg. 114 ft.; 10¾-in. csg. 1,950 ft.; T. L. 7,625 ft.; T. Reynolds L. 7,633 ft.

Lion Oil Ref. Co. No. 3 Sewell, NE cor. Lot 4, NW Sec. 18-18-17. 10¾-in. csg. 1,955 ft.; drlg. rd. sdy. sh. 7,101 ft.

C. H. Murphy et al No. 2 fee, NW cor. SW SE Sec. 13-18-18. Drlg. rd. sdy. sh. 6,388 ft.

Phillips Pet. Co. No. 1 Amanda, SE cor. NE SE Sec. 12-18-18. T.D. 6,747 ft.; fsg. 2 jts. D.P.

Phillips Pet. Co. No. 2 Amanda, NE cor. NE SE Sec. 12-18-18. 10¾-in. csg. 2,-068 ft.; drlg. rd. sdy. sh. 7,218 ft.

Phillips Pet. Co. No. 2 Brian, C S½ NE SE Sec. 13-18-18. 10¾-in. 2,077 ft.; T. Jones sd. 7,519 ft.; T. L. 7,628 ft.; T.D. 7,700 ft.

Phillips Pet. Co. No. 3 Brian, NW SE Sec. 13-18-18. 16-in. csg. 191 ft.; T. Jones sd. 7,555 ft.; set 7-in. csg. 7,-698 ft.; W.O.C. 7,725 ft.

Phillips Pet. Co. No. 2 El Dorado, NW cor. NW SE Sec. 12-18-18. 10¾-in. csg. 2,104 ft.; cg. 7,623 ft.

Phillips Pet. Co. No. 2 Miller, C N½ Lot 4, SW Sec. 18-18-17. T.D. 7,680 ft.; 7-in. csg. 7,755 ft.; T.D. 7,780 ft.; W. O.C.

Phillips Pet. Co. No. 6 Sewell, NE cor. Lot 3, SW Sec. 7-18-18. 10¾-in. 2,071 ft.; drlg. rd. sdy. sh. 7,485 ft.

Phillips Pet. Co. No. 7 Sewell, NE cor. 2,079 ft.; drlg. rd. sdy. sh. 7,080 ft.

Phillips Pet. Co. No. 8 Sewell, SE cor. Lot 4, SW Sec. 7-18-18. T. Jones sd. 7,566 ft.; cg. 7,567 ft.

Phillips Pet. Co. No. 1 J. E. Shatford, SW cor. NW NW Sec. 17-18-17. 10¾-in. csg. 2,073 ft.; T. Jones sd. 7,570 ft.; T.D. 7,700 ft.; W.O.

Roberts & Murphy No. 3 Leona, NW cor. Lot 6, SW Sec. 7-18-17. Drlg. 1,-618 ft.

Union County—Other

E. G. Bradham No. 3 Raulston, SE cor. NE SE Sec. 12-17-14. 10-in. csg. 105 ft.; W.O.C.

Goodwin & Markwick No. 1 Adams, 250 ft. SW cor. SW NW Sec. 7-17-13. 10-in. 99 ft.; cd. 2,984-3,044 ft.; D.S.T. 3,-009-91 ft. 55-min.; ¾-in. cks.; rec. 2,-700 ft. S.W.; abd.; T.D. 3,091 ft.

Hollyfield & McFarlane No. 6 Scott-Murphy, NW cor. E½ SE NW Sec. 9-16-15. Cd. T. Meakin sd. 2,336 ft., sdy. sh.; S.O. 2,362 ft.; gr. sdy. sh. 2,-362-71 ft.; 7-in. csg. 2,375 ft.; P.B. and W.O.C. 2,356 ft.; comp.; pmpg. 625 B. P.D. S.W. and 135 B.P.D. oil; perf. 2,-336-46 ft.

J. R. Lockhart No. 1 Jerry, SE SE Sec. 12-17-14. D.&A. 3,981 ft.

Lion Oil Ref. Co. No. 9 Hardy-Murphy, NW cor. NE NW Sec. 9-16-15. Cd. sd. S.O. 2,295-2,321 ft.; 7-in. csg. 2,344 ft.; cor. perf. 2,294-2,300 ft.; comp.; pmpg. 500 B.F.P.D.; 30 B.O.

J. R. Lockhart No. 1 P. W. Gaddy, NE cor. NW NW Sec. 13-17-14. Set 10-in. csg. 105 ft.; W.O.C.

J. R. Lockhart No. 1-A Raulston, NE cor. SW SE Sec. 12-17-14. D.S.T. 3,-007-37 ft.; ¼-in. B. and ½-in. T cks.; W.P. 100 lbs.; 3 min.; W.P. 210 lbs.; 9 min.; rec. drlg. mud and cut oil; rng. 7-in. csg. 3,037 ft.; tstd. S.W.; W.O.

Mullins & Brooks et al No. 1 Nash, 500 ft. N and 338 ft. W of SE cor. NW SE Sec. 7-17-13. 10-in. csg. 148 ft.; D.S.T. 3,037-52 ft.; rec. 250 ft. oil and 30 ft. S.W.; 14-min.; W.P. 4 lbs.; top pay 3,232 ft.; 5½-in. 3,100 ft.; prep. drill plug 3,232 ft.

Mullins, Brooks et al No. 2 Nash, NE cor. NE SW Sec. 7-17-13. 10-in. 148 ft.

Sloan Wells, Tr., No. 4 G. J. Childs, 150 ft. NW cor. NE SW Sec. 8-16-16. O.W. W.O.; O.T.D. 2,656 ft.; S.D.; W.O.

ALABAMA

Barbour County

H. A. Stebbinger et al No. 1 Mrs. Alyce Robertson, C NE NE Sec. 19-10n-25e Drlg. sdy. sh. 2,748 ft.

NORTH MISSISSIPPI

Calhoun County

L. C. Lucas No. 1 E. C. Boland, 400 ft. E and 500 ft. S, NW cor. SW Sec. 9-22n-9e. S.D. 791 ft.

S. & O. Properties, Inc., No. 1 G. C. Cooner, SE NE Sec. 12-24n-8e. T.A. 2,300 ft.

Clarke County

Jeremiah L. Ryan et al No. 1 M. Eddins, 500 ft. SE cor. Sec. 29-2n-14e. S.D. 290 ft.

George County

Cleve Love et al No. 2 J. J. Newman Lbr. Co., C SW Sec. 9-1s-8w. D.&A.; T.D., rd. sh. 7,038 ft.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, Sec. 13-7s-10w. T.A. 2,700 ft.

Hinds County

G. Jefferys No. 1 Gaddis Farms, Inc., NW cor. SE Sec. 26-7n-4w. S.D. 3,-448 ft.

Cleve Love et al No. 1 S. F. Johnson, NE cor. Sec. 29-6n-1w. S.D. 5,218 ft., sd.; arng. D.D.

Montgomery County

Dr. T. H. Chichester No. 1 Mitchell, Sec. 36-20n-7e. Drlg.

Pontotoc County

Waldrop et al No. 1 Bray, Sec. 17-11s-1e. S.D. 310 ft.

Rankin County

Urban B. Hughes, Tr., No. 1 Love Pet. Co., 330 ft. SE cor. NW NE Sec. 1-5n-1e. Set 8⅝-in. csg. 758 ft.; 5½-in. csg. 2,348 ft.; comp.; est. 40,000,000 cu. ft. gas; T.D. 2,367 ft.

Simpson County

Cleve Love No. 1 N. E. Garner, SW cor. SW NE Sec. 1-10n-17w. S.D. 900 ft.

Goodwill O. & G. Co. No. 1 Berry, Sec. 33-2n-4e. S.D. 2,810 ft.

Yalobusha County

Chas. W. Crader et al No. 1 John Bruce Jane, 990 ft. NE cor. Sec. 24-11s-6w. Top chk. 1,565 ft.; T.A. 2,002 ft., chk.

FLORIDA

Levy County

Florida Oil Discovery No. 2 Cedar Key Co., Sec. 9-15s-13e. S.D.; W.O.; T.D. 4,092 ft.

Nassau County

St. Mary Oil Corp. No. 1 Hilliard, Sec. 19-4n-24e. Set 6⅝-in. csg. 3,935 ft.; S.D.; fsg. for bit.

Lake County

Union O. & R. Co. No. 1 Gulf Explm., sec. 17-24s-25e. S.D. 235 ft.

Suwanee County

J. W. Phillips Oil Explm. Co. No. 1 Shilkett, Sec. 14-4s-14e. Drlg. 150 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. Cg. 4,255 ft.

Producers O. & G. Co. No. 1 Graves & Thomas, SE cor. SW SE Sec. 23-15-10. Set 13⅜-in. csg. 180 ft.; S.D. 1,-540 ft.; (cor.).

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. Sec. 10-22-11. D.&A. 3,197 ft.

Premier Inv. Co. No. 1 McDade, SE SW NE Sec. 28-19-11. T.D. 2,384 ft.; acd.

READY and HANDY

"The Entirely Different Boiler and Engine Treatment"

Here is the modern boiler and engine water treatment that is always *ready to use and on hand!* It comes in 16 oz. cans and *only a few ounces* are needed from one to four times per month!

With this pure colloidal concentrate there is no handling, shipping or storing of large bulky drums. No mixing of hundreds of pounds of various chemicals. No danger of damaging equipment or persons. Because it holds any and all water impurities in suspension there is no need of costly water analyses. Operating conditions and water may change but Sand-Banum continues to provide perfect protection!

Just think of the simplicity and convenience of this treatment for oil operators everywhere. A month's supply for a 250 Hp. boiler in a 16 oz. can!

Don't Buy it—PROVE IT FIRST! Try it for 30, 60 or 90 days. If it doesn't do everything we say it will, you owe us nothing!

AMERICAN SAND-BANUM COMPANY, Inc.

9 ROCKEFELLER PLAZA NEW YORK CITY

William M. Barret, Inc.

Consulting Geophysicists

Specializing in Magnetic Surveys

Contracts accepted for domestic and foreign projects, using the most improved instrumental and interpretative technique.

GIDDENS-LANE BUILDING -:- SHREVEPORT, LA.

with 1,000 gal.; csg. seat gave away; hole full S.W.; 5½-inch csg., 2,342 ft. pmpg. 5 B.O.P.D. and 25 bbls. S.W.; W.O. 2,432 ft.

Caddo Parish

C. L. Ablinger No. 1 Gregory, NE cor. Sec. 3-20-11. 6-in. 960 ft.; comp.; 2 B. O.P.D. and 50 bbls. S.W.; T.D. 971 ft.

C. L. Ablinger No. 2 Gregory, NW cor. NE Sec. 3-20-16. 10-in. 42 ft.; set 6-in. 962 ft.; tstd. est. 500,000 cu. ft. gas; comp.; est. 12,000,000 cu. ft. gas and 5 B.O.P.D.; T.D. 966 ft.

R. E. Allison No. 3 Ellerbe, NE cor. Sec. 28-18-14. Loc.

R. E. Allison No. 5 Ellerbee, C NE NE Sec. 34-18-4. 9⅝-in. csg. 2,032 ft.; perf. 5,549-62 ft.; comp.; 8 B.P.H.; ⅛-in. ck.; T.P. 1,900 lbs.; C.P. 2,050 lbs.; est. 5,000,000 cu. ft. gas; 5½-in. csg. 5,572 ft.

Claude Bagley No. 1 Crystal fee, NE SW Sec. 24-21-16. Drlg. 450 ft.

Carney et al No. 3 Hart, SE NW Sec. 21-21-16. To set csg. 1,783 ft.

W. D. Chew No. 6 Stiles, SW NE Sec. 28-21-16. Set 6-in. csg. 1,945 ft.; T.D. 1,954 ft.; tstd. S.W. 1,954 ft. and P.B. 1,944 ft.; drld. out to 1,954 ft.; tstd. S.W.; sw. and abd. 1,954 ft.

Colonial Corp. No. 1 Thigpen-Herold, 330 ft. S and W, C Sec. 34-22-16. Cg. 4,840 ft.; P.B. and cmtd. 5½-in. 2,630 ft.; O.T.D. 4,865 ft.; flwd. oil and went dead; tbg. plugged; prep. pull tbg. and reset.

Paul Cooper No. 2 Stiles, SW SE Sec. 28-21-16. Set 6-in. csg. 1,542 ft.; used 1,500 gal. acd. and tstd. dry; tstd. S.O. 1,851 ft.; drlg. to 1,977 ft.; tstd. S.W.; W.O.

L. L. Davidson No. 4 Muslow, NE SE Sec. 26-21-16. Drlg. plug 2,267 ft.; 6-in. csg. 2,234 ft.

R. E. Davidson No. 1 Herold et al, NW cor. SE NW Sec. 10-21-16. 6-in. csg. 1,036 ft.; tstd. S.W.; W.O. 1,048 ft.

J. P. Driscoll et al No. 1 Woolworth, SE cor. Sec. 26-20-15. Set 16-in. csg. 208 ft.; W.O.O.

Eagle Prod. Co. No. 1 Means, SE cor. NE Sec. 9-23-15. Ran Schlmb.; T.D. 6,004 ft.; perf. 5,775-5,815 ft.; tstd. gas and dist.; mudded off perf. and drld. to 6,030 ft.; set pkr. below perf. and tstd. 600 ft. O.I.H.; acdz. and tstd. 5,000,000 cu. ft. gas; think pkr. did not hold; T.D. 6,030 ft.

W. C. Feazel et al No. 1 Hughes, 660 ft. SE cor. Sec. 33-18-14. 13⅜-in. 184 ft.; drlg. sh.&L. 4,950 ft.

Claude Ferguson No. 2 Lawhon, NW cor. Sec. 7-20-25. 7-in. 1,340 ft.; W.O.S.R. 1,575 ft.

H. C. Prod. Co. No. 1 Kinnebrew & Ratcliff, NE cor. Sec. 5-19-16. Cg. 2,160 ft.

Hayes & Dilon No. 1 Bostwick, C NW NE Sec. 13-22-16. D.&A.; no test; T.D. 1,604 ft.

Hurricane Pet. Corp. No. 2 Chandler, C NW SE Sec. 34-18-14. 13⅜-in. csg. 178 ft.; set 9⅝-in. 1,620 ft.; el. 240 ft.; drlg. sh.&L. 5,262 ft.

Hurricane Pet. Corp. No. 1 North, NW cor. SE NE Sec. 34-18-14. Set 9⅝-in. 1,637 ft.; W.O.C.

La. Oil Prod. Co. No. 15-B Muslow, Sec. 4-20-15. Set 7-in. csg. with 4½-ft. perf. on bttm. at 2,148 ft.

Ben Levy No. 1 Crystal fee, SW cor. Sec. 25-21-16. Drlg. 1,585 ft.

C. D. Loe No. 1 Meyer, SE cor. Sec. 33-18-14. Top Pettit 5,592 ft.; T.D. 5,628 ft.; perf. 5,602-25 ft. and tstd. S.W.; P.B. 5,611 ft.; 5½-in. csg. 5,627 ft.; T. D. 5,631 ft.; P.B. 5,583 ft.; drld. out to 5,610 and perf. 5,602-05 and tstd. S.W.; perf. 5,553-57 ft.; tstd. csg. and perf. 5,592-95 ft. Set tbg. with packer 5,600 ft. tstd. S.W. and S.O. 5,592-98 ft. and reperf. 5,589-92 ft.; set pkr. 5,587 ft. and tstd. S.W. 5,600 ft.; S.O.; S.D.; W.O.; T.D. 5,598 ft.; O.T.D. 5,631 ft. set retainer plug 5,603 ft. and sqzd. perf. points and reperf. 5,590-5,600 ft.; tstd. oil; no S.W.; fsg. swb. lnr.

McDonald & Campbell No. 2 Burton, NW cor. Sec. 7-20-15. 7-in. csg. 1,342 ft.; tstg. 1,583 ft.; W.O.S.R.

Magnolia Pet. Co. No. 5 Caddo Lve. Bd., NE cor. Sec. 7-20-15. R.U.

Manziel et al No. 3 Ramsey, NE SE Sec. 32-21-15. Set 5½-in. csg. 1,348 ft.; acd. with 2,000 gal. at 1,590 ft.; W.O.S.R.

Oils, Inc., No. 1 Cazaux, SW cor. Sec. 10-16-13. O.W.W.O.: O.T.D. 3,500 ft.; wash to bttm., 3,500 ft.; S.D.

Sam Ripps No. 1 Chew-Lvy. Bd., Sec. 23-21-16. 8-in. csg. 1,025 ft.

J. E. Sedberry No. 1-A Dickinson, SW cor. Sec. 10-19-14; O.W.W.O. O.T.D. 2,410 ft.; 4½-in. csg. 2,435 ft.; W.O.C. 2,453 ft.

Harry Smith No. 1 Sproull, SE cor. Sec. 32-20-16. 5-in. csg. 1,411 ft.; tstd. S.W. 1,910 ft.; P.B. 1,650 ft. and swbg. S.W. O.T.D. 1,698 ft.; P.B. 1,650 ft.; S.W. and abd. 1,650 ft.

Southern Star Pet. Corp. No. 1 Muslow, SE NW Sec. 17-20-15. Pmpd. S.W.; O.T.D. 1,698 ft.; S.D. 2,150 ft.

Waldrip & Williams No. 1 Crystal fee, 440 ft. E. 220 ft. S. NW cor. C SE SW Sec. 24-21-16. 10-in. 98 ft.; comp.; 15 B.P.D.; pmpg.; 992 ft.

R. W. Williams No. 1 Ark. Fuel, SE SE Sec. 26-21-16. 5-in. csg. 2,232 ft.; comp.; pmpg.; 140 B.P.D.; T.D. 2,258 ft.

R. W. Williams No. 2 Ark. Fuel, NW cor. SE SE Sec. 26-21-16. 10-in. 64 ft.; 5½-in. 2.230 ft.; W.O.C.

Caldwell Parish

G. W. Ziegen et al No. 15 Cent. La. Lbr. Co., 1,650 ft. S. 330 ft. E. NW cor. Sec. 32-15-2e. Drlg. sdy. sh. 1,500 ft.

Catahoula Parish

Sibley Sabine Oil Co. No. 1 Peck, S½ Sec. 36-10-8e. S.D. 3,212 ft.

Claiborne Parish

E. T. Oakes et al No. 2 Kilgore, C NW SE Sec. 28-21-5. Hd. to slightly por. L. 5,294-5,303 ft.; 5½-in. csg. 5,287 ft.; used 6,000 gal. acd.; swbg. to test; tstd. S.S.O. 5,324 ft.; split csg. 2,600 ft.; cmtd. csg.; swbd. dry; set tbg with pkr.; cannot cmt. off S.W.; T.D. 5,234 ft.; set 4½-in. csg. 5,290 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 8 12-16. Set 7-in. csg. 2,705 ft.; acd. with 3,000 gal. and tstd. est. 2,000,000 ft. gas; 400 lbs.; gas exhausted; 1,000 ft. O.I.H., 2,761 ft.; did not pmp. at 2,761 ft.; S.D. W.O. 2,853 ft.

J. A. Lanier No. 1 Powell, SE cor. SE NE Sec. 30-12-11. 10-in. csg. 89 ft.; no sd.; T.D. 2,700 ft.

Paul Miller No. 2 Jal Drlg. Co., NE Sec. 5-11-11. Set 7-in. csg. 4,038 ft.; perf. 3,901-14 ft.; C.I.; W.O. ga.; R.P. 1,400 lbs.; O.T.D. 4,205 ft.; perf. csg. 3,901-14 ft.; C.I.; W.O. ga.; R.P. 1,400 lbs.

Tippett Oil Corp. No. 1 Williams, SE cor. Sec. 31-13-11. Set 7-in. csg. 1,165 ft.; tstd. S.W. 1,410 ft. P.B. 1,335 ft. and acd. 3,000 gal.; tstd. S.W. 1,360 ft.; abd.; T.D. (P.B.) 1,360 ft.

Grant Parish

Long & Porter No. 1 Swope, SE cor. NW SE Sec. 18-9-1e. 10-in. csg. 84 ft.; set 6-in. csg. 1,610 ft.; T.D. 1,625 ft.; W.O.S.R.

La Salle Parish

Pet. Heat & Power Co. No. 3 Richardson, SE cor. Sec. 3-9-1e. 6-in. csg. 1,515 ft.; W.O.C. 1,520 ft.

G. C. Walsenham No. 1 Dean, NW cor. SE Sec. 23-9-1e. 6-in. csg. 1,595 ft.; W.O.C. 1,602 ft.

Madison Parish

Continental Oil Co. No. 3 Singer, C S SW NW Sec. 2-15-11e. Drlg. sh., sd.& lignite 2,100 ft.

Natchitoches Parish

Jack Lent et al No. 1 Whatley, SW cor. Sec. 17-10-10. Drlg. sh. 1,320 ft.

Red River Parish

Crow Drlg. Co. No. 1 Crichton, 990 ft. S and E, C Sec. 17-13-10. Drlg. sh. 1,655 ft.

J. C. Prine No. 3 Haynes, SW cor. Sec 20-13-10. 5⅝-in. csg. 2,510 ft.; D.D. 2,560 ft.; W.O.S.R.

H. B. Schumacher No. 1 Crichton, SW cor. NW Sec. 18-13-10. R.U.

Sabine Parish

Clyde Creighton No. 1 Bowman Hicks, C NE NW Sec. 3-7-12. 10-in. csg. 60 ft. 7-in. csg. 2,422 ft.

Earl F. Fox No. 1 Cook Ld. Co., SW cor. SE NW Sec. 1-9-12; O.W.W.O. O.T.D. 3,655 ft.; arng. dpn. 3,655 ft.

A. B. House No. 1 Sabine, NW NW Sec. 23-7-14. 8-in. csg. 2,134 ft.; used 7,000 gal. acd.; tstd. dry; cond. mud 3,642 ft.; arng. set 7-in. 3,500 ft.; T.D. 3,642 ft.

LeGrande & Brown No. 1 Tatum, NE cor. NW NE Sec. 17-8-13. Tstd. dry 2,130 ft.; tstd. S.G.; acd. with 1,000 gal.; tstd. dry 2,340 ft.; did not acd.; tstd. S.W.; S.O. 2,340 ft.; 500 ft. O.I.H.; used 3,000 gal. acd.; tstd. S.O. 2,340 ft.; will set short string 4-in. csg. 2,340 ft.; W.O.S.R.; 800 ft. O.I.H.

Major Oil Co. No. 1-C Bowman Hicks Lbr. Co., C SW NW Sec. 34-8-12. Tstd. dry and S.D.; 2,817 ft.; D.&A.

Major Oil Co. No. 6 Bowman Hicks, C SW SE Sec. 11-7-13. Set 10-in. 82 ft.; set 7-in. csg. 2,196 ft.; T.D. 2,504 ft.; used 2,500 gal. acd.; used 3,250 gal. acd.; comp.; pmpg. 6 B.P.D.; 2,504 ft.

Major Oil Co. No. 2 Sabine, NW cor. NW NE Sec. 12-7-13. Drlg. 2,155 ft.

Morris Co. No. 1-A Ervine & Bishop, C NE SW Sec. 14-7-13. Set 6-in. csg. 2,177 ft.; used 3,000 gal. acd.; tstd. S.O.; W.O. 2,573 ft.; comp.; 15 B.P.D., pmp.; T.D. 2,573 ft.

H. L. Nutting No. 1 Williams, SW cor. Sec. 13-7-11. T.D. 3,130 ft.; used 3,000 gal. acd.; swbg. S.W. 2,860 ft.; will P. B. 2,755 ft.; tstd. S.W.; P.B. 2,730 ft.; acdz.; tstg.; T.D. 2,730 ft.; O.T.D. 3,130 ft.

J. R. Schuster No. 1 Mary Garcia, NE cor. NW SE Sec. 15-7-13. T.D. 2,603 ft. P.B. 2,585 ft.; tstd. dry; acdz. and tstd. dry; W.O. 2,585 ft.

M. S. Slagle et al No. 1 Chadwick, SW cor. SE NW Sec. 32-8-10. Set 6-in. csg. 2,590 ft.; swbg. S.W.; T.D. 2,649 ft.; rep. rig; tstd. S.W.; W.O.

C. H. Smith No. 1 Sabine Lbr. Co., NE cor. NW NW Sec. 9-7-13. Set 10-in csg. 66 ft.

Zwolle Synd. No. 1 Mansfield Lbr. Co., Sec. 8-7-19. T.D. 4,323 ft.; 5-in. csg. 3,830 ft.; drlg. plug 4,323 ft.; 2,500 gal acd.; perf. 3,730-70 ft.; tstd. dry; W.O 3,770 ft.; O.T.D. 4,323 ft.; sqzd. off perf.; set short string 4-in. csg. 3,883 ft. and perf. 3,861-70 ft. and 3,880-83 ft.; O.T.D. 4,323 ft.; tstd. S.W.; S.O.; P.B. 3,700 ft. and perf. 2,120-40 ft. and 2,234-60 ft.; tstd. small S.G. 2,275 ft. and used 2,500 gal. acd.; tstd. dry; D. &A. 2,275 ft.

Tensas Parish

H. V. Schumacker No. 4 Mound Plantation, Sec. 29-11-12e. Rmg. to bttm.; T. D. 2,450 ft.; S.D. for D.S.T. 2,450 ft.

Webster Parish

R. L. Fisher et al No. 1 S. P. D. Coyle, 660 ft. N and 1,880 ft. E of SW cor. Sec. 23-21-10. Holl. sd. 5,549-66 ft., gas and dist.; drlg. sh.&L. 5,630 ft.

Hunt Oil Co. No. 4 Bodcaw-Stewart, 2,155 ft. N and 660 ft. E, SW cor. Sec. 34-21-10. Drlg. sh.&L. 5,319 ft.

Hunt Oil Co. No. 23 Hope, C NW NW Sec. 13-21-10. Comp.; 29 B.P.H.; ⅝-in. ck.; T.P. 700 lbs.; C.P. 1,100 lbs.; Holl. sd. 5,720-34 ft. and 5,741-50 ft.; T.D. 5,940 ft.

Hunt Oil Co. No. 1 Sandifer, C NE NE Sec. 4-20-10. No Hollwy. sd.; top "D" sd. 8,534 ft.; S.O. 8,534-50 ft.; "D" sd. 8,537-68 ft.; Bodcaw sd. 8,628-68 ft.; set 7-in. csg. 8,715 ft.; perf. csg. 8,540-65 ft. and tstd. S.W.; tstd. dry 8,538-40 ft., 8,540-42 ft., 8,542-44 ft., and 8,544-46 ft.; perf. again at 8,543-46 ft.; tstg.; T.D. 8,558 ft.

Hunt Oil Co. and Stanolind O. & G. Co. No. 1 Coffee-Webster Inv. Co. Unit, C NE NW Sec. 36-31-10. 13⅜-in. csg. 677 ft.; drlg. L.&sh. 5,500 ft.

Magnolia Pet. Co. No. 4 Branton, NE cor. Sec. 6-22-9. 9⅝-in. csg. 5,933 ft.; T. lower Marine 7,750 ft.; drlg. sdy. sh. 8,041 ft.

Magnolia Pet. Co. No. 1 Cox. C NW SW Sec. 15-21-10. R.U.

Magnolia Pet. Co. No. 1-C Pardee, C NW NE Sec. 17-23-11. Rmd. and set 9⅝-in. csg. 5,920 ft.; top lower Marine 7,998 ft.; 8,505-10 ft. strks. hd. sd., O. &G. odor; cd. 8,537-39 ft.; 2-ft. sd. gas odor; drlg. to 10,070 ft.; ran elec. form. tester; shot with 100 qts. nitro in basal; G. Rose 5,930-36 ft.; tstd. dry; S.S.O.&G.; used 5,000 gal acd. and 36 B.O.; swbg. to test.

Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W, C SE Sec. 29-23-9. Set 13⅜-in. csg. 887 ft.; drlg. sh.&L. 5,650 ft.

North American Oil Consol. Co. No. 4 Stewart-Coyle, C NW SE Sec. 29-21-10. Top "D" sd. 8,339 ft.; T. Bodcaw sd. 8,430 ft.; cg. 8,433 ft. to Davis.

Ohio Oil Co. No. 51 Bodcaw Acct. 2, NE cor. Sec. 15-21-10. 7-in. csg. 8,583 ft.; comp.; 190 B.P.D.; 1-in. ck. and 3,400,000 cu. ft. gas.

Ohio Oil Co. No. 8 B. Sydney Hrs., SW cor. Sec. 16-20-10. No Hollwy. sd.; 9⅝-in. csg. 5,670 ft.; "D" sd. 8,482-98 ft.; Bodcaw sd. 8,588-8,622 ft.; 7-in. csg. 8,596 ft.; comp.; flwg. 300 bbls. in 12 hrs.

Oliphant Oil Corp. No. 1 Gray & Stephens, C SE SW Sec. 35-21-10. Top Tr. Pk. 5,882 ft.; Hollwy. sd. 5,975-88 ft.; 9⅝-in. csg. 5,595 ft.; drlg. sdy. sh. 7,913 ft.

Oliphant Oil Corp. No. 1-A Hodges, C NW NE Sec. 3-20-10. Top Tr. Pk. 5,995 ft.; no Holl. sd.; set 9⅝-in. csg. 5,610 ft.; T.D. 6,195 ft.

Oliphant Oil Corp. No. 2-B Stewart, C NW NW Sec. 4-20-10. No Hollwy. sd.; 9⅝-in. csg. 5,615 ft.; top "D" sd. 8,594 ft., S.W.; T. Bodcaw 8,684 ft.; 7-in. csg. 8,672 ft.; tstd. S.O.&G. and S.W. 8,692 ft.; D.S.T. failed; used 2,000 lbs. input gas and tstd. 55 bbls. dist. and 103 bbls. S.W. per day; tstd. dry 8,715 ft.; top Davis sd. 8,930 ft.; cg. 8,948 ft.

Stanolind O. & G. Co. and W. Delaney No. 1 Pardee-Coffee Unit, C NE Sec. 36-21-10. T. Tr. Pk. 5,932 ft.; no Holloway sd.; set 9⅝-in. csg. 5,955 ft.; drlg. sh.&sd. 7,217 ft.

Stanolind O. & G. Co. and Hunt Oil Co. No. 1 Pardee-Coffee Unit, C NE NE Sec. 36-21-10. Top Tr. Pk. 5,897 ft.; no Hollwy.; 9⅝-in. csg. 5,944 ft.; T. Bod. sd. 8,586 ft.; Bod. sd. 8,580-8,626 ft.; 7-in. csg. 8,612 ft.; T.D. 8,626 ft.; comp.; 1,752 B.P.D.; ½-in. ck.; T.P. 1,150 lbs.; C.P. 1,250 lbs.; T.D. 8,626 ft.

Union Prod. Co. No. 1 Walker Unit, 50 ft. S. C SE Sec. 30-18-8. 13⅜-in. csg. 1,413 ft.; T.D. 6,376 ft.; P.B. 6,200 ft. to straighten hole.

Woodley Pet. Co. No. 1 J. O. Couch, C NW SW Sec. 36-21-10. Drlg. sd. 7,883 ft.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk

Bancroft—Beauregard Parish

Republic Prod. Co. No. 4 Columbia Ld. & Tbr. Co., Sec. 16-6s-13w. Drlg. sd. &sh. 5,604 ft.

Republic Prod. Co. No. 5 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. Drlg. sh. 1,495 ft.

Republic Prod. Co. No. 3 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. T.D. 7,295 ft.; 7-in. csg. 7,290 ft.; I.P. 287 B.P.D.; ⅛-in. ck.

Republic Prod. Co. No. 4 Lutcher Moore Lbr. Co., Sec. 16-6s-13w. S.D. 1,458 ft.

Republic Prod. Co. No. 1 Louis Whitman, Sec. 15-6s-13w. Clearing loc.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. Driving piling.

Texas Co. No. 1 Wax Bayou, Sec. 21-16s-12e. T.D. 11,185 ft.; 7⅝-in. csg. 11,126 ft.; P.B. 10,925 ft.; perf. csg. 10,907-20 ft.; tstd. oil and S.W.; set retainer at 10,895 ft.; perf. csg. 10,907-12 ft.; rec. 6.615 ft. of oil and S.W.; P.B. 10,810 ft.; perf. csg. 10,115-35 ft.; tstd. gas on D.S.T.; perf. csg. 10,067-75 ft.; tstd. 1,600 lbs. W.P.; 1,828 ft. of gas-cut mud; sqzd. off perf.; reperf. csg. 9,745-55 ft.; perf. csg. 8,650-60 ft.; I.P. 51 B.P.D.; 10/64-in. ck.; comp.

Baton Rouge—East Baton Rouge Parish

Wm. Helis et al No. 4 Duplantier, Sec. 65-7s-1w. T.D. 6,481 ft.; top sd. 6,473 ft.; I.P. 350 B.P.D.; ¼-in. ck.

Wm. Helis No. 2 Harry Nolson, Sec. 36-7s-1w. Top sd. 6,459 ft.; T.D. 6,480 ft.; 7-in. csg. 6,460 ft.; I.P. 346 B.P.D.; ¼-in. ck.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 3 Schwing Lbr. Co., Sec. 66-9s-11e. Cg. sh. 6,770 ft.

Bayou Bouillon—St. Mary Parish

Transcontinental Oil Co. No. 5 State, Sec. 13-9s-9e. T.D. 1,275 ft.; 10¾-in. csg. 1,170 ft.; T.D. 3,100 ft.; P.B. 1,700 ft.; to sdtrk.

Bayou Choctaw—West Baton Rouge

La. Crusader No. 4 Schwing, Sec. 29-8s-11e. T.D. 8,504 ft.; 7-in. csg. 8,500 ft.; perf. csg. 8,258-68 ft.

La. Crusader No. 5 Schwing, Sec. 29-8s-11e. 9⅝-in. csg. 2,250 ft.; T.D. 4,755 ft.; P.B. 4,200 ft.; sdtrkd. 4,214 ft.; T.D. 7,878 ft.; P.B. 7,530 ft.; stk. D.S.

Bayou Des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 3 St. Charles Ld. Co., Sec. 13-15s-20e. Bldg. foundation.

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 2 L.L.&E., Bay St. Elaine, Sec. 18-22s-18e. Loc.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, Sec. 19-23s-20e. T.D. 6,463 ft.; P.B. 5,430 ft.; sdtrkd.; drlg. sh. 5,583 ft.

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; drlg. sh. 6,461 ft.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 5 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. Driving piling.

Sun Oil Co. No. 4 Dibert Stark and Brown Cypress Co., Sec. 70-15s-15e. Drlg. sh. 4,856 ft.

Charenton—St. Mary Parish

Edwards & Aber No. 2 Blanchard, Sec. 21-13s-9e. T.D. 1,148 ft.; 5½-in. csg. 1,141 ft.; tstd. S.W.; P.B. 1,132 ft.; perf. csg. 1,125-32 ft.; W.O.S.R.

Edwards & Aber No. 1 Lebland, Sec. 21-13s-9e. Top sd. 1,119 ft.; T.D. 1,123 ft.; W.O.S.R.

Kinsley Oil, Inc., No. 1-B Hertel, Sec. 30-13s-9e. Loc.

Pan American Prod. Co. No. 3-B H. E. Cuer, Sec. 25-13s-9e. T.D. 2,446 ft.; 7-in. csg. 2,437 ft.; I.P. 252 B.P.D.; ¼-in. ck.

Pan American Prod. Co. No. 1 Law Realty, Sec. 31-13s-10e. Drlg. sh. 6,747 ft.

St. Mary Oil Co. No. 1 Robichaux, Sec. 21-13s-9e. T.D. 1,830 ft.; 7-in. csg. 1,830 ft.; perf. csg. 1,800-05 ft. and 1,795-1,800 ft.; tstd. S.W.; sqzd. off perf. perf. csg. 1,797-1,802 ft.; pmpd. S.W.; abd.

Convent—St. James Parish

Continental Oil Co. No. 2 Realty Operators, Inc., Sec. 16. 13⅜-in. csg. 1,492 ft.; drlg. sh. 6,790 ft.

Creole—Cameron Parish

Superior Oil Co. et al No. 4 State-Gulf of Mexico, Twp. 15s-8w. Drlg. sh. 4,264 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Landry, Sec. 34-10s-2e. T.D. 7,071 ft.; P.B. 6,054 ft.; W.O.C.

Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 22 State, Sec. 5-22s-16e. 13⅜-in. csg. 2,030 ft.; T.D. 6,027 ft.; P.B.; sdtrkd.; T.D. 6,602 ft.; trying to sdtrk. at 6,208 ft.

Edgerly Field—Calcasieu Parish

R. H. Kean et al No. 1 M. J. Muller et al, Sec. 29-9s-11w. T.D. 2,862 ft.; 7-in. csg. 2,804 ft.; swbd. S.W. and mud; prep. to D.D.

Fausse Point—Iberia Parish

Texas Co. No. 5 State Lake-Fausse Point Sec. 35-11s-8e. T.D. 9,843 ft.; run electrical survey.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 2 Rek, Sec. 40-17s-15e. Cg. sh. 9,416 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 31 State, Sec. 28-23s-33e. Drlg. sdy. sh. 1,539 ft.

Gillis—Calcasieu Parish

Union Sulphur Co. No. 12 State, Sec. 12-9s-8w. T.D. 9,070 ft.; P.B. 8,613 ft.; set retainer at 6,793 ft.; W.O.C.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 3 Grand Prairie, Sec. 6-20s-19e. 20-in. csg. 70 ft.

Gulf Ref. Co. No. 1 State-QQ, Sec. 8 20s-19e. 13⅜-in. csg. 1,498 ft.; shaly sd. S.O. 6,083-86 ft.; rec. 1,830 ft. mud &S.W.; D.S.T. 6,582-6,612 ft.; drlg. sh. 7,112 ft.; D.S.T. 6,662-77 ft.; rec. 270 ft. oil; cd. oil sd. 7,145-46 ft.; T.D. 7,147 ft.; top sd. 7,137 ft.; 9⅝-in. csg. 7,135 ft.; drld. out to 7,147 ft.; set retainer at 7,123 ft.; sqzd. with cmt.; I.P. 720 B.P.D.; ¼-in. ck.

Hackberry—Cameron Parish

F. W. Bennett No. 1 Bickford, Sec. 37-12s-10w. Drlg. sh. 3,375 ft.
L. W. Capps et al No. 1 Duhon, Sec. 27-12s-10w. T.D. 3,487 ft.; 7-in. csg. 3,271 ft.; W.O.S.R.
Stanolind O. & G. Co. No. 22-B Gulf fee, Sec. 14-12s-10w. T.D. 6,919 ft.; perf. csg. 6,130-60 ft.; I.P. 459 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 56 State, Kelso Bayou, Sec. 22-12s-10w. Drlg. sh. 168 ft.
Superior Oil Co. No. 5 Benson Vincent, Sec. 30-12s-10w. Drlg. sh. 7,323 ft.
Texas Co. No. 16-B State-Hackberry Twp. 12s-9w. Drlg. sh. 7,990 ft.
Texas Co. No. 24-B State, Sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 8,163 ft., 7-in. csg. 8,050 ft.; perf. csg. 7,904-16 ft.; tstd. S.W.; P.B. 7,780 ft.; perf. csg. 7,763-74 ft.; W.O.S.R.
Union Sulphur Co. No. 7 Caldwell et al Sec. 37-12s-10w. Drlg. sh. 7,113 ft.
Union Sulphur Co. No. 11 Doiron, Sec 37-12s-10w. Drlg. sh. 6,349 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, Sec. 37-17s-9e. 9⅝-in. csg. 11,631 ft.; T.D. 12,768 ft.; wshg. hole.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Adeline Sugar Co., Sec. 39-13s-9e. Drlg. sh. 8,612 ft.
Herton Oil Co. No. 9 Carter, Sec. 38-13s-9e. T.D. 9,912 ft.; D.S. stk.

Jefferson Island—Iberia Parish

Texas Co. No. 2 Jefferson Island, Sec 58-12-5e. 18⅝-in. csg. 40 ft.; drlg. L.& sh. 5,896 ft.
Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. Bldg. drk.

Jennings—Acadia Parish

W. T. Burton No. 6 Roboria, sec. 41-9s-2w. 7-in. csg. 6,721 ft.; fsg. tbg.; T.D. 6,997 ft.; sdtrkd. at 6,118 ft.; drld. to 6,178 ft.; sdtrkd. at 6,023 ft.; T.D. 6,732 ft.; trying to drill by fish; P.B. 6,104 ft.; W.O.C.; sdtrkd. 6,020 ft.; T.D. 6,056 ft.; 7-in. csg. 2,203 ft. and 10¾-in. csg. 2,108 ft.
A. W. Forrester No. 1 Jules Clement, Sec. 46-9s-2w. T.D. 3,060 ft.; S.D.
Glassell & Glassell No. 4 McFarlain, Sec 41-9s-2w. T.D. 7,109 ft.; 7-in. csg. 7,071 ft.
Glassell & Glassell No. 7 Trushel, Sec 42-9s-2w. T.D. 7,628 ft.; 7-in. csg. 7,624 ft.
Guaranty Oil Co. No. 1-A Houssiere Latreille, Sec. 47-9s-2w. Drlg. sh.&sd. 840 ft.
Guaranty Oil Co. No. 2 Houssiere-Latrielle, Sec. 47-9s-2w. T.D. 1,840 ft.; I.P. 20 B.P.D.; pmpg.
Gulf Ref. Co. No. 1 Lamb, Sec. 45-9s-2w. T.D. 6,372 ft.; rmg.
Jolly Pet. Co. No. 2 Crusel, Sec. 41-9s-2w. 16-in. 84 ft.; T.D. 6,880 ft.; rmg.
Jolly Pet. Co. No. 3 McFarlain, Sec. 41-9s-2w. Drlg. sdy. sh. 6,701 ft.
L. & L. Oil Co. No. 4 Houssiere Latreille, Sec. 47-9s-2w. T.D. 1,825 ft.; 7-in. csg. 1,817 ft.; T.D. 1,881 ft.; pmpd. dry; S.D.
Ladak Oil Co. No. 8 Jenning Clement, Sec. 46-9s-2w. T.D. 1,735 ft.; 6-in. csg 1,705 ft.; tstd. S.W.; pull screen; dpnd to 1,764 ft.; drld. to 1,842 ft.; I.P. 100 B.P.D.; pmpg.
O'Mera et al No. 2 McFarlain, Sec. 41-9s-2w. T.D. 1,625 ft.; 10¾-in. csg. 1628 ft.; T.D. 7,171 ft.; 7-in. csg. 7,171 ft.; I.P. 725 B.P.D.
Port City Oil Co. No. 23 Jennings Haywood, Sec. 41-9s-2w. Drlg. sdy. sh. 2,308 ft.
Shell Pet. Corp. No 5 Community, Sec 40-9s-2w. T.D. 7,892 ft.; perf. lnr. to test.
Stanolind O. & G. Co. No. 113 Crowley Oil & Mineral Co., Sec. 48-9s-2w. 8⅝-in. 1,556 ft.; drlg. sdy. sh. 7,290 ft.
Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. Loc.
Superior Oil Co. No. 16 Wm. Leckelt Sec. 42-9s-2w. T.D. 5,102 ft.; milling on csg.
Three Sands Oil Co. No. 2 Clement, Sec 46-9s-2w. 6-in. csg. 1,700 ft.; S.D. 2,600 ft.; abd.

Lafitte—Jefferson Parish

Texas Co. No. 2 Lafitte, Sec. 19-17s-24e. Drlg. sdy. sh. 10,052 ft.
Texas Co. No. 4 Madison Realty Co., 17-24e. T.D. 10,134 ft.; 7⅝-in. csg. 10,132 ft.
Texas Co. No. 1 Sch. Bd., Sec. 16-17-24e. 13⅜-in. csg. 2,030 ft.; T.D. 10,622 ft.; 9⅝-in. csg. 10,622 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp.-Humble O. & R. Co. No 9 La Fourche Basin, Sec. 2-18s-25e Drk.

Lake Pelto—Terrebonne Parish

Texas Co No. 22 State, Sec 8-23s-18e T.D. 6,027 ft.; sdtrkd.; drlg. sh. 5,900 ft.

Leesville—La Fourche Parish

Texas Co No 7 Leeville, sec. 27-21s-22e. T.D. 8,667 ft.; D.S. stk.; sdtrkd.; T.D. 8,436 ft.; sdtrkd.; T.D. 8,685 ft.; stk. 9⅝-in. csg. at 8,577 ft.; sdtrkd. 8,440 ft.; stk. D.S.; sdtrkd.; drlg. sh. 9,325 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 2 H. J. Ellender, Sec. 32-19s-19e. Loc.
Humble O. & R. Co. No. 1 Laterre, Inc., Sec. 31-19s-19e. 13⅜-in. csg. 3,174 ft.; drlg. sd. 11,666 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 7 State-Lake Long, Twp. 17s-19e T.D. 295 ft.; 18⅝-in. csg. 295 ft.; cg. sh. 9,463 ft.

New Iberia—Iberia Parish

H. Fotiades No. 7 Gulf Ld., Sec. 25-12s-7e. Drk.; abd. loc.
Wm. Helis No. 5 Schwing, Sec. 56-12s-7e. T.D. 4,954 ft.; P.B. 4,188 ft.; W.O.C.
Texas Co. No. 2 Bryant, Sec. 25-12s-7e R.U.
Texas Co. No. 1 Gonsoulin, Sec. 13-12-7e. T. salt 9,200 ft.; T.D. 9,210 ft.; P. B. 1,219 ft.; abd.
Texas Co. No. 2-A Hanzon, Sec. 54-12s-7e. R.U.
Texas Co. No. 1 Renaudet et al, Sec. 71-12s-7e. Drlg. sh.&L. 5,322 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 3 H. T. Habetz, Sec. 45-8s-1e. Cg. sd. 8,601 ft.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 1 Alcide Fournerat, Sec. 11-7s-2w. Drlg. sh. 3,630 ft.
Atlantic Ref. Co. No. 3 Klumpp, Sec. 13-7s-2w. Drlg. sh. 6,780 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 1 Rene Nezal. Drk.
T. D. Spill No. 1 Gaudet, sec. 4-6s-5e T.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 37 Orleans Lv Bd., Sec. 23-18s-15e. T.D. 3,138 ft.; rng. 13⅜-in. csg. 3,061 ft.; cg. sd. 7,317 ft.
Western Gulf Prod. Co. No. 1 Pascale, Sec. 6-18s-27e. Loc.
Western Gulf Prod. Co. No. 1-A Treadway, Sec. 6-18s-27e. Loc.; (cor.).

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 2-A Orleans Levee Bd., Sec. 7-19s-17e. Loc.
Gulf Ref. Co. No. 5 State, Sec. 17-19s-17e. Loc.
Gulf Ref. Co. No. 6 State, Sec. 17-19s-17e 9⅝-in. csg. 5,880 ft.; T.D. 8,178 ft.; tstd. 25 lbs. press.; D.S.T. 8,140-78 ft. I.P. 357 B.P.D.; ¼-in. ck.
Gulf Oil Ref. Co. No. 7 State, Sec. 18-19s-17e. T.D. 8,183 ft.; 7-in. csg. 8,140 ft.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; T.A.
Amerada Pet. Corp. et al No. 2 Godchaux, Sec. 34-15s-19e. R.U.

Sorrento—Ascension Parish

Sorrento Pet. Corp. No. 2 White, Sec. 22-10s-4e. 10¾-in. csg. 1,940 ft.; T.D. 7,068 ft.; abd.

South Roanoke—Jeff Davis Parish

Union Sulphur Co. No. 2 T. R. S. Farms, Sec. 23-10s-4w. T.D. 10,954 ft.; (cor.). sdtrk. 9,075 ft.; drilled to 9,266 ft.; stuck D.S.; P.B. 8,860 ft.; sdtrkd.; T.D. 10,177 ft.; stk. 5-in. csg. 9,189 ft.; cutting and pulling csg. 8,971 ft.

Gueydan—Acadia Parish

A. M. Barbe No. 1 G. L. Humble, Sec 27-11s-1w. T.D. 8,685 ft.; 7-in. csg. 4,685 ft.
Burton-Sutton Oil Co. No. 1 Valerean-Simon, Sec. 37-11s-1w. T.D. 8,455 ft.; abd.

Starks—Calcasieu Parish

J. R. Turnbull et al No. 6 Industrial Lbr. Co., Sec. 30-9s-12w. T.D. 1,929 ft.; bailing S.W.

Sweet Lake—Cameron Parish

Pure Oil Co. No. 1 Stanolind O. & G. Co fee lse., Sec. 12-13s-8w. Drlg. sdy. sh. 6,259 ft.

Timbalier Bay—La Fourche Parish

Gulf Oil Corp. No. 3 State (O.W.D.D.), Sec. 36-23s-21e. O.T.D. 8,728 ft.; P.B.; sdtrkd.; T.D. 6,795 ft.; 7-in. csg. 6,758 ft.; O.S. 6.792-95 ft.; I.P. 290 B.P.D.; ¼-in. ck.
Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.; P.B. and sdtrkd. 3,501 ft.; T.D. 6,546 ft.; drld. by jnk. to 6,668 ft.; P.B.; 7-in. csg. 6,651 ft.; top salt 7,224 ft.; T.D. 7,268 ft., salt; P.B. 5,400 ft.; perf. csg. 5,330-40 ft.; tstd. 3,504 lbs. press.; reset screen; would not flow; reset screen; bailed dry; P.B. 5,345 ft.; perf. csg. 5,330-40 ft.; swbd. dry; flwg. 5 B.P.D.; ⅛-in. ck.; tstg.

Valentine—La Fourche Parish

Wm. Helis et al No. 4 Valentine Sugars Inc., Sec. 2-17s-20e. T.D. 7,567 ft.; P.B. 6,765 ft.; drld. out to 6,790 ft.; tstd. oil and S.W. 6,726-95 ft.; P.B. 4,750 ft. sdtrkd. 4,550 ft.; T.D. 6,722 ft.; 7-in. csg. 6,709 ft.
Pan American Prod. Co. No. 2-A Community, Sec. 58-17s-20e. T.D. 9,629 ft.; tried to blow out: B.P. 7,983 ft.; rmg.
Pan American Prod. Co. No. 2 Robichaux, Sec. 4-17s-20e. T.D. 6,802 ft.; abd.
John Vacerro et al No. 1 Acosta Hrs., Sec. 9-17s-20e. T.D. 5,402 ft.; run 7-in. csg.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 9 Manhattan Land & Fruit Co., Sec. 26-21s-30e. 10¾-in. csg. 2,457 ft.; top salt 5,505 ft.; T.D. 5,565 ft.; sdtrkd. 4,647 ft.; drlg. sdy. sh. 4,670 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Fontenot Ludean, Sec. 45-3s-2e. Drk.
Continental Oil Co. No. 3 Piere McDaniel, Sec. 44-3s-2e. Drlg. sh. 8,285 ft.
Continental Oil Co. No. 2 Martha Haas, Sec. 44-3s-2e. T.D. 9,089 ft.; run csg.
Continental Oil Co. No. 2 N. H. Hirsch, Sec. 44-3s-2e. Cg. sd. 9,052 ft.
Continental Oil Co. No. 2 Petre, Sec. 44-3s-2e. Drlg. sh. 8,740 ft.
Texas Co. No. 2 fee, Sec. 27-3s-2e. Drlg. sh. 8,916 ft.

Vinton—Calcasieu Parish

J. M. Donald et al No. 1 Gordon, Benchenstein-Flynn, Sec. 34-10s-12w. T.D. 1,000 ft.; W.O.C.
C. A. Richardson et al No. 1 Vincent, Sec. 34-10s-12w. Drlg. sh. 65 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 1 Adam Comier, Sec. 5-12s-2w. Drlg. sh. 7,126 ft.

West Lake Verret—St. Martin Parish

Shell Pet. Corp. No. 2 Jeanerette, Sec. 14-14s-12e. Drlg. sdy. sh. 1,990 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 2 Osmon, Sec. 7 9s-5w. Drlg. sh. 761 ft.
Union Sulphur Co. No. 1 Races, Sec. 12-9s-6w. T.D. 8,911 ft. (cor.).; P.B. 8,908 ft.; perf. csg. 8,895-99 ft.; I.P. 123 B.P.D.; ⅛-in. ck.; plus 23% S.W.
Union Sulphur Co. No. 1 A. H. Thomas, Sec. 12-9s-6w. Drlg. sh. 8,696 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Tennark, Inc., No. 1 C. J. Freeland, Sec. 64-7s-2e. Drlg. sh. 5,321 ft.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. Drk.

Assumption Parish

Humble O. & R. Co. No. 1 Milliken & Farewell Co., Inc., Sec. 79-14s-14e. 13⅜-in. csg. 2,978 ft.; drlg. sh. 7,460 ft.

Avoyelles Parish

Sid Richardson No. 1 Haas Inv. Co., Sec. 7-28s-3e. Drlg. sh. 8,240 ft.

Calcasieu Parish

David B. MacDaniel No. 2 Sch. Ld., Sec. 16-9s-7w. 15½-in. csg. 46 ft.; 10¾-in. csg. 1,299 ft.; drlg. sh. 6,920 ft.

Cameron Parish

Federal Royalty Co. No. 2 State-Calcasieu Lake, Twp. 13s-9w. T.D. 1,525 ft.; abd.
Humble O. & R. Co. No. 1 Sweet Lake Ld. & Oil Co., Sec. 6-12s-6w. Drlg. sh. &L. 7,926 ft.
Superior Oil Co. No. 1 John Pradia, Sec. 4-15s-8w (core test). Drlg. 7,344 ft.

Iberia Parish

Texas Co. No. 1 Petit Anse, Sec. 59-13s-6e. R.U.

Iberville Parish

California Co. No. 1 Schwing Lbr. Co., Sec. 96-10s-10e. 20-in. csg. 177 ft.; drlg. plug.
Humble O. & R. Co. No. 1-B A. Wilberts Sons Lbr. Co., Sec. 78-8s-8e. Dredge canal.
Shell Pet. Corp. No. 1 Natalbany Lbr. Co., Sec. 18-9s-2e. Clearing loc.

La Fourche Parish

Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. Drlg. sd.&L. 7,232 ft.
Texas Co. No. 1 La Terre, Sec. 1-20s-21e. T.D. 8,898 ft.; 9⅝-in. csg. 8,898 ft.; T.D. 11,135 ft.; 2,500 ft. 6⅝-in. csg. 11,135 ft.; perf. csg. 9,975-10,005 ft.; tstd. 21 stnds. dist.; P.B. 8,600 ft.; drlg. out cmt. to 9,316 ft.; perf. csg. 9,265-90 ft.; tstd. S.W.; made sqz. job; reperf. csg. 9,230-57 ft.; make D.S.T.; perf csg. 8,650-70 ft.; rec. 71 stands of S.W. and 3 stands of mud and oil; sqzd. perf.; W.O.C.; perf. csg. 8,500-20 ft.; I.P. 828 bbls. 37.4-grav. oil per day; ¼-in. ck.; started showing S.W.; killed; reperf. csg. 8,500-10 ft.
Texas Co. No. 1 State-Catfish Lake, Sec. 77-19s-21e. 18⅝-in. csg. 90 ft.; T.D. 8,205 ft.; D.S. stk.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, Sec. 1-10s-13e. Cd. 10,184-10,214 ft.; formation had small amt. of oil and slight gas show; drlg. sh. 10,650 ft.
W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. Dredge canal.
W. T. Burton No. 2 L.&N.R.R., Sec. 1-12s-14e. Dredge canal.
W. T. Burton No. 1-B R. E. E. de Montluzin, Sec. 1-10s-13e. Drk.
W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. T.D. 8,367 ft.; P.B. 7,775 ft.; sdtrkd. at 7,959 ft.; T.D. 8,165 ft.; 9⅝-in. csg. 8,165 ft.; T.D. 8,241 ft.; tstd. S.W.; D.S.T. 8,135-8,241 ft.; T.D. 11,149 ft.; S.D.

Plaquemines Parish

Texas Co. No. 1 L.L.&E. Bastian Bay, Sec. 43-20s-28e. Drlg. sh. 3,633 ft.

St. Bernard Parish

Gulf Ref. Co. No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; drlg. sdy. sh. 9,071 ft.
Wm. Helis et al No. 1 Mereaux Munez, Sec. 34-12s-12e. Drlg. sd.&sh. 7,573 ft.
Vendome Pet. Corp. No. 1 Kenilworth Plantation, Sec. 59-13s-14e. Drlg. sdy. sh. 7,384 ft.

St. Charles Parish

Texas Co. No. 1 L.L.&E. Paradis, Sec. 39-14s-20e. Drlg. sh. 6,610 ft.

St. James Parish

Shell Pet. Corp. No. 1 Shexnayder, Sec. 38-12s-15e. T.D. 7,973 ft., sd., strks. of sh. showing oil; prep. to make D.S.T.

St. Martin Parish

Texas Co. No. 6 State Lake Mongoulois, Sec. 10-10s-9e. T.D. 9,858 ft.; 7⅝-in. csg. 9,839 ft.; top salt 10,388 ft.; T.D. 10,403 ft.; P.B. 9,775 ft.; perf. csg. 9,763-74 ft., 8-min. D.S.T. tstd. 2,300 lbs. W.P.; recvd. 10 gal. dist.; sqzd. off perf.; reperf. csg. 9,675-95 ft.; I.P. 59 B.P.D.; 14/64-in. ck.
Texas Co. No. 11 St. Martin Ld. Co., Sec. 2 8s-7e. Top salt 8,804 ft.; T.D. 9,404 ft.; 7-in. csg. 8,912 ft.; P.B. 7,175 ft.; drld. out to bttm.; P.B. 8,060 ft.; perf. csg. 8,060-70 ft.; tstd. mud, gas and S.W.; sqzd. off perf.; perf. csg. 8,060-65 ft.; tested 38 stands oil and gas showing fresh wtr.; set screen and lnr.; washed well; no flow; bailing showing oil and small amt. of gas.

St. Mary Parish

Phillips Pet. Co. No. 1 Whitney Natl. Bnk., Sec. 13-15s-12e. R.U.

St. Tammany Parish

A. P. Portas No. 1 W. C. Forbes, sec. 33-7s-15e. Drk.

Terrebonne Parish

Texas Co. No. 1 Continental Ld. & Fur Co., Sec. 29-18s-14e. 18⅝-in. csg. 101 ft.; T.D. 10,039 ft.; P.B. 9,852 ft.; sdtrk. 9,984 ft.; T.D. 11,882 ft.; S.D.
Texas Co. No. 2 State-Coon Point, Twp 23s-14e. 13⅜-in. csg. 1,900 ft.; T.D. 2,851 ft.; driving piling.

West Baton Rouge Parish

Humble O. & R. Co. No. 1 S. A. Levert, Sec. 5-8s-12e. R.U.

TEXAS

Week Ending January 7

GULF COAST FIELDS

Hastings Field—Brazoria County

Stanolind O. & G. Co. No. 2-C Cecil Brown, W. H. Snyder Sur. Drk.
Stanolind O. & G. Co. No. 12 South Tex. Grain Co., Perry & Austin Sur. Drlg. sh. 4,130 ft.

Old Ocean—Brazoria County

Commerce Oil Co. No. 1 S. M. Patterson, Polly & Chance Sur. 9⅝-in. csg. 7,000 ft.; T.D. 10,200 ft.; run electrical cg. survey.
Harrison & Abercrombie No. 3 Armstrong Plantation, Polley & Chance Sur. S.D. 8,878 ft.
Harris & Abercrombie No. 4 Armstrong, Polly & Chance Sur. Drlg. sdy. sh. 10,410 ft.
Harrison & Abercrombie No. 3 Chenault, C. Breen Sur. Drlg. sdy. sh. 9,236 ft.
Harrison & Abercrombie No. 1 Lois Buck, Polley & Chance Sur. Spd.
Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. T.D. 10,087 ft.; 7-in. csg. 10,087 ft.; T.S. 9,953 ft.; I.P. 250 bbls.; various cks.
Sun Oil Co. No. 1 Campbell, Chas. Breen Sur. T.D. 10,400 ft.; run csg.

West Columbia—Brazoria County

Mike Hogg No. 5 fee, M. Varner Sur. T.D. 6,215 ft.
Texas Co. No. 10 Phillips, G. Tennille Sur. Drlg. sh. 3,312 ft.

Cedar Point—Chambers County

Standard Oil Co. of Texas et al No. 4-118 State. T.D. 5,983 ft., oil sd.; I.P. 16 B. P.H.; ¼-in. ck.
Standard Oil Co. of Texas No. 35-118 State. Drlg. sh. 2,430 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 5 Acom. H.T.&B. Sur. No. 103. 10¾-in. csg. 1,945 ft.; drlg. sh. 7,439 ft.
Sun Oil Co. No. 3-A White, H.T.&B. Sur. No. 118. 10¾-in. csg. 1,910 ft.; drlg. sh.&L. 5,439 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1-38 State (6,000 ft. S of field in Turtle Bay). 10¾-in. csg. 1,212 ft.; T.D. 8,530 ft.; 5½-in. csg. 6,673 ft.; perf. csg. 6,637-41 ft.; tstd. S.W.; P.B. 4,500 ft.; perf. csg. 3,944-3,960 ft.; swbd. S.W.; abd.

League City—Galveston County

George Echols No. 1 Maco Stewart, Perry & Austin Sur. Cg. sh. 9,246 ft.
Gulfboard Oil Corp. et al No. 1 Ross-Stewart, Perry & Austin Sur. R.U.
Phillips Pet. Co. No. 1 J. C. Ott, S. F. Austin Sur. Drlg. sh. 5,087 ft.
Phillips Pet. Co. No. 1 Dr. Patton, S. F. Austin Sur. Cg. sh. 9,046 ft.
Phillips Pet. Co. No. 1 Stewart, Title Guaranty, S. F. Austin Sur. Drlg. sh. 8,036 ft.
West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Bammel—Harris County

Hamil & Smith No. 1 Majorwitz, W.C.R. R. Sur. No. 10, Blk. 4. Drlg. sh. 1,310 ft.
H. M. Lawrence and Geo. Lawrence No 1 C. Ehrkardt, H. Simmons Sur. 9⅝-in. csg. 1,010 ft.; T.D. 6,208 ft.; 5½-in. csg. 6,208 ft.; perf. csg. 6,170-90 ft.; flwg. gas.

Clear Lake—Harris County

Stanolind O. & G. Co. No. 1 Geo. Sowden, Jas. Lindsey Sur. Cg. sh. 5,736 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards Reels & Trobough Sur. Drk.

Eureka—Harris County

Jack Frazier No. 6 Hogg, J. Reinerman Sur. Drlg. sh. 7,136 ft.
Jack Frazier No. 5 Vollmer, Nieman Sur. Cg. sh. 7,630 ft.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Means & McGehee No. 1-E Lackner, H. Reinerman Sur. Drlg. sh. 5,130 ft.
Tide Water Asso. Oil Co. No. 1 M. A. Roy, J. Reinerman Sur. T.D. 8,650 ft.; perf. csg. 7,945-49 ft.; flwg. 12 B.F.P.H.; 7/32-in. ck., 24% S.W.

Fairbanks—Harris County

E. M. Hailey No. 1 Albert Brown, J Clarkson Sur. Loc.
Housh-Thompson No. 1 Yerkes, Sam Lewis Sur. T.D. 6,835 ft.; flwg. oil and wash wtr.; 7/64-in. ck.
Sinclair Prairie Oil Co. No. 2 Goodykoontz, Wiley S. Powell Sur. T.D. 6,975 ft.; perf. csg. 6,832-35½ ft.; bldg. storage; to test.

Friendswood—Harris County

Humble O. & R. Co. No. 8 fee, L. Hemenway Sur. Drlg. sh. 3,620 ft.
Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk.
Humble O. & R. Co. No. 9 Keisling & Dixon, T. Choate Sur. Drlg. sh. 4,678 ft.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson Drk.
Humble O. & R. Co. No. 4 West Prod. Co., T. Choate Sur. Drlg. sh. 4,236 ft.

Cheek—Jefferson County

Humble O. & R. Co. No. 1 E. K. Failor, C. Hillebrandt Sur. Drlg. sh. 2,545 ft.

Cordele—Jackson County

H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 1 McFaddin, S. A. Pace Sur. Drlg. sh. 3,196 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 4 Broussard-Hebert, B Blackman Lge. T.D. 8,675 ft.; 7-in csg. 8,605 ft.; pmpg. wtr. into hole to kill press. in No. 3 Broussard; made sqz. job; dpnd. 8,680 ft.; fsg. for D.P milling out of csg. 8,466-70 ft.; T.D 8,795 ft.; D.S. stk.; sdtrkd.; T.D. 8,670 ft.; 5-in. csg. on bttm.; W.O.C.

Hardin—Liberty County

Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.
Humble O. & R. Co. No. 10-A Partlow, H. B. Johnston. Drlg. sh. 6,400 ft.
Smith & McDannald No. 3 Rives, A. B. Hardin Sur. T.D. 7,645 ft.; 5½-in. csg. 7,645 ft.
Texas Co. No. 1 Humphrey, F. Hardin Sur. Drlg. sh. 6,361 ft.
Woodley Pet. Co. No. 2 Humphrey, F. Hardin Sur. T.D. 7,954 ft.; 5½-in. csg. 7,897 ft.

Orange—Orange County

C. L. Brown No. 2-B Lutcher Moore Lbr. Co., J. Dyson Sur. Spd.
Continental Oil Co. No. 18 Chesson, Wm. Dyson Sur. Loc.
Hankamer et al No. 1 Conley, Wm. Dyson Sur. R.U.
John G. Mayo No. 1 Seales, Wm. Dyson Sur. 10¾-in. csg. 1,000 ft.; T.D. 6,179 ft.; perf. csg. 5,970-76 ft.; flwd. dist.; S.I.; S.D.
Red Bank Oil Co. No. 1 First Natl. Bank Wm. Dyson Sur. Perf. csg. 5,625-29 ft.; flwd. gas and dist.; tstg.

Ace—Polk County

Peyton Bros. No. 3-B Kirby West, G. S. Thomas Sur. Cg. sd. 5,159 ft.

Segno—Polk County

Gulf Oil Corp. No. 2-B Quin, A. Morales Sur. Drlg. sh.&L. 4,022 ft.
Gulf Oil Corp. No. 5 Ragan, I.&G.N. Sur No. 15. Loc.
Gulf Oil Corp. No. 15 Wing, I.&G.N. Sur. No. 13. Drlg. sh. 6,820 ft.
Humble O. & R. Co. No. 10-B Kirby Lbr. Co., M. Victor Sur. Drlg. sh. 8,036 ft.
Providence Oil Co. No. 2 Wing, I.&G.N. Sur. No. 14. Drlg. sh. 4,596 ft.

Spurger—Tyler County

Republic Prod. Co. No. 16 fee, N. Hurd Sur. Drlg. sh. 4,339 ft.

GULF COAST WILDCATS

Austin County

Crown Cent. Pet. Corp. et al No. 1 Huebner, Renkestolz Sur. R.U.
Kirby Pet. Co. No. 1 Herring, H.&T.C. Sur. No. 102. Drlg. sh. 2,905 ft.

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound) M.I.M.
Humble O. & R. Co. No. 1 Masterson Geo. Robinson Sur. 13⅜-inch csg. 2,402 ft.; T.D. 10,033 ft.; abd.
Humble O. & R. Co. No. 1 Yates, S. Marsh Sur. Loc.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D Smith Sur. Loc.
Moore & Ahern No. 1 E. Maley, Ben Winfree Sur. T.D. 6,758 ft.; abd.
L. D. Roberts No. 1 C. H. Lang, T.&N. O. Sur. No. 35. Drk.; (cor.).

Colorado County

Coyle & Concord No. 4-B Powell, I.&G. N. Sur. No. 45. Drlg. sh. 5,215 ft.

Fort Bend County

N. W. Hunter No. 1 Lighau, B.B.B.&C. Sur. (north flank Big Creek). Spd.
Kennelly & Hendee et al No. 1 W. T. Boyd, Wm. Barrett & A. Harris Sur. Drlg. sh. 1,700 ft.

Harris County

Jack Frazier et al No. 1 W. T. Carter. Talcott Patching Sur. T.D. 4,717 ft.; abd.
H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jefferson County

British American Oil Co. et al No. 2 Gladys City, J. A. Veatch Sur., SW flank Spindletop dome. T.D. 6,575 ft.; abd.
I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 13-B McFaddin-State, Sec. 8. 10¾-in. csg. 2,758 ft.: T.D. 5,859 ft.; D.S. stk.; backed off at 3,688 ft.; fsg.

Matagorda County

Maja Oil Co. No. 1 Robbins, A. Sheppard Sur. R.U.
Sun Oil Co. No. 1 Cavallin, Theo. F. Koch subd., John Duncan Sur. Drlg. sh. 3,500 ft.

Montgomery County

H. A. Pennington et al No. 1 F. L. Banker, L. M. H. Washington Sur. S.D. 1,033 ft.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. S.D. 3,623 ft.

Orange County

Sun Oil Co. No. 1 Lutcher-Moore Lbr. Co., B. Johnson Sur. T.D. 7,867 ft.; P.B.; sdtrkd.; 7-in. csg. 9,402 ft.; T.D. 9,705 ft.; D.S. stk.; P.B. 8,384 ft.; drlg out cmt. at 9,451 ft.

Waller County

Providence Oil Corp. No. 1 Ida Lee Muske, Jas. Perry Sur. R.U.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, John Lightfoot Sur. R.U.

Wharton County

R. B. Fields No. 1 Barker, John Huff Lge. (Boling dome deep test). R.U.

S. W. TEXAS WILDCATS

Atascosa County

R. C. Stanley No. 1 Schumann, Simon Malone Sur. No. 1069. T.D. 1,722 ft.; perf. csg. 1,650-75 ft.; perf. csg. 1,654-76 ft.; flwd. fresh wtr.; S.S.O.; S.D.

Bastrop County

R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. T.D. 2,132 t.; 7-in. csg. 2,008 ft.; S.D.
Marts & Beaven No. 1 Doherty, John Maxmillian Sur. S.D. 2,775 ft.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,160 ft.

Bexar County

H. G. Krumm No. 1 Kempf, Samuel McCollough, Jr., Sur. No. 54. S.D. 565 ft.
L. G. Priest et al No. 1 E. B. McCollough, Stephen Jett Sur. T.D. 1,004 ft.; bailed to bttm.; recvd. est. 25 gal. oil.
Charles Schreiner No. 1 McCloskey, L. Desague Sur. No. 134. T.D. 1,100 ft.; S.D.; 7-in. csg. 710 ft.
David Stiles No. 1 Minna Sherrer, Jos Antonio de la Garza Sur. Cg. 955 ft.
Joe Wagner et al No. 1 Florence Lamm, Manuel De Luna Sur. No. 3. Drlg. 139 ft.

Blanco County

D. M. Johnston No. 1 Glasscock, W. W. McDonald Sur. No. 50. 10-in. csg. 150 ft.; S.D. 719 ft.
E. L. Nixon No. 2 Crist, John McClenechen Sur. No. 94. S.D. 210 ft.

Brooks County

Humble O. & R. Co. No. 2 McGill Bros., Ygnacios Rivas La Blanca gr. Cg. 4,710 ft.

Caldwell County

S. T. Dudley et al No. 1 Becker, L. L. Joseph Sur. T.D. 713 ft., chk.; 7-in. csg. 685 ft.; drlg. L. 870 ft.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogesberry Sur. T.D. 10,015 ft.; P.B. 8,550 ft.; perf. csg. 7,829-52 ft.; rng. tbg.

De Witt County

Richardson et al No. 1 W. D. McCurdy, John Hunt Sur. T.D. 150 ft.

Duval County

Ark. Fuel Oil Co. and Taylor Ref. Co. No. 1 Hernandez, F. Hernandez Sur. No. 56. Drlg. sh. 330 ft.
J. W. Cosner et al No. 1 Cantu, Geraro Briones Sur. Loc.
Frank Gravis No. 3 Schallert, Seale, Morris & Seale Sur. No. 2550. Drlg. sh. 2,860 ft.
S.K.&C. et al No. 3 Welder, Nathaniel Tinsley Sur. S.D. 2,070 ft.
Porter & Blanchard et al No. 1 Yates, John Gray Sur. Loc.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Frio County

Hickock & Reynolds No. 1 San Antonio Joint Stock Ld. Bnk. Drlg. sd. 1,920 ft.
Humble O. & R. Co. No. 2 Houston, Conrad Die Sur. 161. T.D. 5,145 ft.; making D.S.T.

Goliad County

Steinberge Pet. Corp. No. 1 Albrecht T. Hancock Sur. T.D. 5,313 ft.; 5½-in. csg. 5,313 ft.; perf. csg. 5,238-44 ft.; pulling tbg.; cmt. job gave way; drlg. out cmt.; to perf. csg. 4,804-32 ft.

Gonzales County

Hochheim Dev. Trust No. 1 Dubose, E. G. Coffman Sur. 10-in. csg. 37 ft.; S.D. 500 ft.
A. L. Mitchell and L. W. Sorrell No. 1 A. I. Culpepper. S.D. 1,150 ft.

Guadalupe County

Frank Glenn No. 1 Appling, Harriet Cottle Sur. No. 14. T.D. 2,218 ft.; tstg. 2,-130-37 ft.; 7-in. csg. 1,960 ft.; R.U. to pmp.
John Hueners et al No. 1 Bauer, R. E. Brown Sur. S.D. 1,017 ft.
Joseph Holefield No. 1 Claud Brodnax, John King Sur. Resume drlg.
A. D. King No. 1-A Rosenbrock, Vincente Duran Sur. No. 4. T.D. 1,382 ft.; Buda L.; 6-in. csg. 991 ft.; swbg. and flwg. 3 B.O.P.H.; started showing S.W.; cmtd. off bttm. of hole; swbg.; showing small amt. of oil.
R. A. Williams No. 1 Weber, Guadalupe Torres Sur. T.D. 1,483 ft. (cor.); 4½-in. csg. 1,468 ft.; S.D.

Hidalgo County

R. E. Hardin et al No. 1 E. M. Car. Hidalgo Co. Canal Subd., Lot 8, Blk. 8. T.D. 7,509 ft.; perf. csg. 7,440-65 ft.; tstd. 500,000 ft. gas, 9 bbls. dist.; W.P. 1,700 lbs.; killed well; reperf. csg. 6,918-30 ft.; tstd. dist.; reperf. csg. 6,515-25 ft.; flwd. dist.; S.I.

Jim Hogg County

Humble O. & R. Co. No. 5 Bass, San Raphael gr. T.D. 4,755 ft.; making D. S.T.
Johnson & Robinson No. 1 Palacios, Mary Montgomery Sur. S.D. 720 ft.; (cor.).

Jim Wells County

Ark. Fuel Oil Co. No. 1 Blinka, M. Marerra gr. Drlg. sh. 5,016 ft.
H. H. Howell et al No. 1 W. T. Wright, Ross M. Bridges Sur. R.U.
H. H. Howell et al No. 2 Wright, A.&M G.R.R. Sur. R.U.
Magnolia Pet. Co. No. 1 Samuel Maun, Los Olmos y Loma Blanca gr. Drlg. sh. 6,332 ft.
W. H. Mathews No. 1 Frances Clark, Los Precenos gr. 10¾-in. csg. 617 ft.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. T.D. 7,332 ft.; 7-in. csg. 7,332 ft.; perf. csg. 7,327-30 ft.; T.D. 7,832 ft.; fsg.

Karnes County

Formax Oil Co. No. 1 Pflugger, Erasmus Seguin Sur. S.D. 1,969 ft.
Suttle et al No. 1 McKinney, Luz Navarette Sur. Drlg. sh. 3,849 ft.

Kendall County

Carpenter No. 1 Seidensticker, A. Rodriquez Sur. No. 257. S.D. 571 ft.
H. N. Reid No. 1 Marguardt, J. Travuso Sur. No. 150½. S.D. 985 ft.

Kerr County

J. O. Hart et al No. 5-E Jeff Love, J Martinez Sur. O.W.D.D. T.D. 5,677 ft.; abd.

Kimble County

Plateau Oil Co. No. 1 S. J. Davis, N Mitchell Sur. No. 44. S.D. 1,863 ft.; abd.
Plateau Oil Co. No. 1 Hunger, J. Dujne Sur. 5½-in. csg. 1,765 ft.; T.D. 2,080 ft.; abd.

Kinney County

Bob Rose No. 2 Gaebler, Delores Soto de Beales gr. S.D. 300 ft.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S. of Ezzell). S.D. 250 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T.D. 6,404 ft.; acd.; no results; prep. to swb.

Live Oak County

R. H. Feltner No. 1 Reed, I.&G.N. R.R. Sur. 15. R.U.

McMullen County

R. P. Holland et al No. 1 Gayle, B.S.& F. Sur. Drlg. sdy sh. 1,236 ft.
Edward Wilkins No. 1 D. W. Rhodes, B. S.&F. Sur. No. 27. T.D. 2,946 ft.; abd.
Loma Oil Co. No. 1 Edrington A. B. & M. Sur. No. 79. T.D. 1,823 ft.; comp. as dry gas well.

Maverick County

Wellington Oil Co. of Delaware and Humble O. & R. Co. No. 2 Indio Cattle Co. Antonio Rivas Grant. Cuevas Pasture No. 2. T.D. 3,013 ft.; run electrical coring survey.

Medina County

Victor Ziegler No. 1 Paul Haby, Wm. G. Still Sur. No. 1. S.D. 70 ft.

Milam County

McGuyer and McCormick No. 1 Jacob, Jose Leal Sur. S.D. 695 ft.

Nueces County

Heep Oil Corp. et al No. 1 G. W. Smith, Jose Vicente Lopez de Herrera gr. Loc.
Renwar Oil Co. et al No. 1 Eschberger, Nueces River Irrig. Park subd. Drlg. sh. 6,825 ft.
Seaboard Oil Co. No. 2 Wilson, Jose Vincente Lopez de Herrera Sur., Blk. 9. 13⅜-in. csg. 1,551 ft.; drlg. sh. 2,-510 ft.
Union Prod. Co. No. 1 Minnie Brown (Agua Dulce area). T.D. 10,723 ft.; P. B. 6,885 ft.; perf. csg. 6.850 ft.; tstg.

Real County

Blakely Smith et al No. 1 Love Ranch, H.E.&W.T.R.R. Co. Sur. S.D. 310 ft.

Refugio County

G. S. I. et al No. 6 Rooke, Aldrete 6¼ Lge. Perf. csg. 6,327-30½ ft.; comp.; no ga.
Hewitt & Dougherty No. 2 Rooke, Aldrette 6¼ Lge. Cd. sd. 6,312-29 ft.; comp.; no ga.
Phillips Pet. Co. et al No. 1 Emilie Paveleck, Aldrete 6¼ Lge. Drlg. sh. 5,-834 ft.
Shields Oil Co. et al No. 2 Sasse, Sec. 3, Bonnie View subd. T.D. 6,343 ft.; 5½-in. csg. 6.343 ft.

Starr County

Rhinehart and Bowman No. 1 Bowman, J. C. McCarty Sur. Loc.
Sun Oil Co. No. 3 McKinney, A. J. Smith Sur. No. 242. T.D. 5,068 ft.; perf. csg. 4,660-70 ft.
Sun Oil Co. No. 1 N. R. Montalvo, Los Retachez gr., Juan Jose Sais Sur. No. 347. T.D. 5,131 ft.; S.D.

Victoria County

H. L. Edwards No. 1 Strobe, J. M. Cobarrubias Sur. Drlg. sh. 3,429 ft.

Webb County

Harvey & Henderson No. 2 Benavides, J. Poltevent Sur. No. 459. T.D. 3,193 ft.; fsg.
Magnolia Pet. Co. No. 1 Duval Co. Rnh. Co. Loc.
Richardson Pet. Co. No. 1 A. M. Bruni, H.&G.N.R.R. Sur. No. 17. Drlg. sh. 1,-566 ft.

Williamson County

L. B. Burnette, Jr., Tr., No. 1 D. C. Reed, E. Leichtle Sur. Drlg. L. 1,050 ft.

Zapata County

C. H. Lewis et al No. 1 Flores, Charco De La India gr. Loc.

EAST TEXAS

(Border Counties)

Harrison County

F. H. Barnwell No. 1 Smith, A. P. Hope Sur. Cg. 2,830 ft.; D.S.T. 2,280 ft. tstd. dry; ran 5-in. csg. 2,300 ft.
W. S. King No. 1 Taylor, Martin Sur. R.U.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 E. Crawford, A. D. S. Coy Sur. Drlg. L.&sh. 5,488 ft.
Cable Tool Drlg. Co. No. 1 Howard, John Hanks Sur. Set 5½-in. csg. 6,058 ft.; T.D. 6,084 ft.; used 2,000 gal. acd.; tstg.; comp.; 10 B.P.H.; 11/64-in. ck.; T.P. 300 lbs.; C.P. 650 lbs.
Gulf Prod. Co. No. 2 Blake, J. N. Jackson Sur. Drlg. sh. 4,265 ft.
G. Scott Hammond No. 1 W. S. Ford, C. Grayson Sur. 9⅝-in. csg. 1,262 ft.; csg. seat would not hold; S.D.; W.O. 6,107 ft.
Harry Hanbury No. 1 Davis, W. R. Meyer Sur. Comp.; 10 B.P.H.; ½-in. ck.; C.P. 650 lbs.; T.D. 5,958 ft.
Hollandsworth Drlg. Co. No. 2 Hurst, SW cor. lse., J. Hanks Sur. Drlg. L. 3,320 ft.
Phillips Pet. Co. No. 2 Henderson, T. Gillespie Sur. Set 7-in. csg. 6,073 ft.; comp.; 15 B.P.H.; ¼-in. ck.; T.P. 400

lbs.; C.P. 750 lbs.; perf. 5,996-6,009 ft.; T.D. 6,090 ft.
Shell Pet. Corp. No. 1 Stephenson, G. Perry Sur. 8⅝-in. csg. 1,013 ft.; 5-in csg. 5,991 ft.; perf. 5,973-80 ft.; flwd. 2 B.P.H.; W.O.; T.D. 5,996 ft.
Shell Pet. Corp. No. 2 Whelan, Thos Gillespie Sur. 5½-in. csg.; T.D. 5,992 ft.
Texas Co. No. 3 Braden, J. N. Fitzgerald Sur. Set 7-in. csg. 6,025 ft.; W.O.C.
Texas Co. No. 1 Chatten, Wm. Meyers Sur. Set 9⅝-in. csg. 2,106 ft.; W.O.C.

Marion County—Other

Capps Bros. Lbr. Co. No. 2 Stiles, Wall Sur. T.D. 2,394 ft.; swbd. dry; shot with 2 qts. nitro at 2,334 ft.; tstd. dry; S.D. 2,394 ft.

Sabine County

Hugo Allen No. 1 Brooks, Isaac Low Sur. S.D. 5,885 ft.; flows ½ to 3 bbls. 41-grav. oil and goes dead; C.P. 500 lbs.; will attempt to comp. as gas well.

San Augustine County

Superior Oil Co. et al No. 1 Long Bell Lbr. Co., S.P.R.R. Sur. 10¾-in. csg. 440 ft.; T.D. 5,000 ft.; D.S. stk.; fsg.

WEST TEXAS WILDCATS

Andrews County

Anderson & Prichard-Osage Drlg. No. 1 Univ., Sec. 13, Blk. 14, Univ. Sur. D.&A. 4,467 ft.
Atlantic and Standard No. 1-B Cowden, Sec. 1, Blk. 14, T.&P. Sur. U.R. 300 ft.; T.D. 670 ft.
Rogers & Rogers No. 1-B University, Sec. 20, Blk. 9, Univ. Sur. S.D.O. 4,431 ft.; no shows.
Honolulu Oil Corp. No. 1-18 J. E. Parker, Sec. 18, Blk. A-44, P.S.L. Sur. R.U.S. T. 4,440 ft.
Olson Drlg. Co. No. 1 Lockhart-Brown, 5 mi. W of S end of Fuhrman pool. S.D.O. 4,981 ft.
J. W. Tripplehorn No. 1 M. A. Thornberry, Sec. 2, Blk. 42-A. Tstg. 5 to 10 B.O.P.D.; 4,468 ft.
Wright & McMillen No. 1 Bryant-Link, Sec. 7, Blk. 48, P.S.L. Sur. R.U.R.

Cochran County

T. G. Shaw No. 1 Carrie S. Dean, Lge. 94. Drlg. 3,840 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, Sec. 39, Blk. W, T.&P. Sur. S.D. 1,861 ft.

Crane County

Magnolia Pet. Co. No. 12 W. P. Edwards, Sec. 12, Blk. 23-B, P.S.L. Sur. Drlg. 590 ft.
Magnolia Pet. Co. No. 1-18 University, Sec. 18, Blk. 30, Univ. Sur. Drlg. 63 ft.
Standard O. of Texas No. 1-4 University Sec. 4, Blk. 30, Univ. Sur. Drlg. 1,235 ft.

Crockett County

Hanson & Anderson No. 1 W. T. Knoelke, Sec. 30, Blk. GG, H.E.&W.T. Sur. M.I.M.
Humble No. 1 Ozona-Barnhart, Sec. 4, Blk. M-N, G.S.&F. Sur. Drk.; M.I.R.

Culberson County

Harry Niehaus No. 1 Caldwell, Blk. 109, Sec. 13, P.S.L. Sur. Drlg. 2,630 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., Sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dawson County

Daw-Tex. Oil No. 1 J. E. Neely, Sec. 28, Blk. 35, T.&P. Sur. Drlg. 3,055 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. W.O. csg. 3,508 ft.
Humble O. & R. Co. No. 1 Matador Ld. & Cattle Co., Sec. 26, Blk. 1, Shock & Arnold Sur.; 6,000-ft. test. W.O.C. 3,527 ft.

Ector County

Harry J. Brown No. 1 J. M. Gist, Sec. 9, Blk. 42, T.&P. Sur. Drlg. 3,985 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel, S.D. 3,571 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, Sec. 25, Blk. 2, H.&G.N. Sur. Flwd. 148 B.O. in 9 hrs.; P.B. depth of 7,400 ft.; tstg. 7,352 ft.

Hockley County

S. W. Richardson No. 1 A. E. Coe, Lbr. 53, Lge. 40, Maverick C.S.L. Sur. R. U.R.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. Drlg. 5,426 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. W.O.C. 5,365 ft.

Jeff Davis Parish

H. D. Wilcox No. 2 Jones-Coffield, Sec. 308, Blk. 4, H.&T.C. Sur. Drlg. 620 ft. last report.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.&W.T. Sur. W.O.C. 4,450 ft.

Martin County

T. G. Shaw No. 1 Wilkerson, Sec. 35-A, B.&C. Sur. Drlg. 3,599 ft.

Mitchell County

Ajax Drlg. Co. No. 1 Schustes, Sec. 25, Blk. 17, S.P.R.R. Sur. Drlg. 3,125 ft.

Pecos County

G. T. Abell et al No. 1 Baldwin Est., Sec. 24, Blk. 9, H.&G.N. Sur. Drlg. 2,265 ft.
J. R. Bell No. 1-C Gulf-Shearer, Sec. 11, Blk. 10, H.&G.N. Sur. Drlg. 1,818 ft.
Childress Royalty No. 1 Humble-Shearer, Sec. 103, Blk. 10, H.&G.N. Sur. Spdg.
O. E. Schade No. 1 Neville, Sec. 72, Blk. 194, G.C.&S.C. Sur.; 2,500-ft. test. U.R. 7-in. 1,982 ft.
O. E. Schade No. 1 Otis Garrett, Sec. 59½, Blk. 8, H.&G.N. Sur. U.R. 10-in. 363 ft.
Thomason Prod. Co. No. 1 Notions, Sec. 1, Blk. 105, W. P. Howard Sur. U.R. 1,020 ft.
S. Thompson No. 1 Elsinore Cattle Co. Sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 7,352 ft.
J. C. Trees No. 1 fee, Sec. 63, Blk. 8, H.&G.N. Sur. M.I.R.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31, Blk. 58, P.S.L. Sur. Drlg. 259 ft.
Ohio Oil Co. No. 1 Papham, Sec. 18, Blk. 54, T.&P. Sur. D.&A. 5,985 ft.

Schleicher County

Lone Star Gas Co. No. 1 Bert Page, Sec. 30, Blk. L, G.H.&S.A. Sur. Drlg. 1,270 ft.
Lone Star Gasoline Co. No. 2 Bert Page, Sec. 46, Blk. L, G.H.&S.A. Sur. Rng. 12-in. 715 ft.

Scurry County

Coffield & Guthrie No. 1 First Natl., Bk., Snyder, Sec. 29, Blk. 97, H.&T.C. Sur. M.I.R.
Forest Dev. Co. No. 1 J. J. Koonsman, Sec. 217, Blk. 2, H.&T.C. Sur. Cg. 3,425 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch Sur. W.O.C.; cave 4,948 ft.

Upton County

White & Wilson No. 1 Webb, Sec. 176, Blk. 1, C.C.S.D.&R.G.N.G. Sur. U.R. 715 ft.

Ward County

Edwards & Donnelly No. 1 J. S Reynolds, Sec. 34, Blk. 1, H.&T.C. Sur. Drlg. 1,145 ft.; last report.
Robt. E. Mitchell No. 1 Allen, Sec. 7, Blk. 32, H.&T.C. Sur. P.B. 2,155 ft.; S.D.O.

Winkler County

J. W. Richardson No. 1-A J. M. Broshara, Sec. 22, Blk. 77, P.S.L. Sur. P.B. 3,329 ft.; comp.; 124 B.O.P.D.

Yoakum County

Shell Pet. Corp. No. 1 C. A. Hudson, Sec. 834. Bldg. drk.
Shell Pet. Corp. No. 1 J. M. Rutts, Sec 743. Flwd. 2 B.P.H., 2% oil; tstg. on pmp. 5,256 ft.; made 160 B.P.D.

TEXAS PANHANDLE

Collingsworth County

C. H. Mee and C. F. Anderson No. 1 V. K. McCaskill, Sec. 18, Blk. 16, H.&G. N. Sur. Drlg. 105 ft.
Tinsley, White & Knoll No. 1 Frank Knoll, Sec. 62, Blk. 16, H.&G.N. Sur. T.A. 2,263 ft.
White No. 1 Wischamper. Drlg. 2,300 ft.
Johnson No. 1 Taylor. S.D. 875 ft.

Deaf Smith County

Uscan No. 1 Farwell. S.D. 5,650 ft.

Donley County

Robinson No. 1 Kuteman, Sec. 88, Blk. 20. H.&G.N. Sur. Drlg. 4,062 ft.

Gray County

English No. 1 Eudy, S.D. 3,977 ft.
Tripplehorn No. 2 Webb, Sec. 12, Blk. A-9, H.&G.N. Sur. R.U.S.T.

Lipscomb County

M. C. Tieman No. 1 Spangle, Sec. 626, Blk. 43, H.&T.C. Sur. S.D. 1,880 ft.

Potter County

Sinclair Prairie Oil Co. No. 1 Bush, Sec. 23, Blk. 6, B.S.&F. Sur., about 3 mi. N of Amarillo; 8,500-ft. test. Drlg. 6,007 ft.

Roberts County

Whitlock No. 1 Cunningham S.D. 2,817 ft.

E. C. TEXAS WILDCATS

Angelina County

K. L. McHenry No. 1 Humble-fee, T.E. R.R. Sur., ½ mi. SE of Zavalla. Drlg. 900 ft.

Cherokee County

C. C. Lanier No. 1 A. T. O'Neal, J. M. Procella Sur., 3 mi. E of Troup. S.D. 50 ft.

Collins County

G. L. Pace Pet. Co. No. 1 E. E. Hooper, J. Rutherford Sur., 2 mi. E of Blue Ridge. D.&A. 2,757 ft.

Falls County

W. H. Mahon No. 1 V. H. Moore, N. K. Robinson Sur., between Lott and Rosebud. S.D.O. 315 ft.

R. L. Seastrunk No. 1 J. B. Trewitt, J. A. Manchaca Sur., 4 mi. E of Chilton. S.D. 100 ft.

Grayson County

Denver Prod. & Ref. Co. No. 2 Cannon, E., Barnes Sur., 1½ mi. NW of Whitesboro. Drlg. 1,810 ft.
Jim McMurrey No. 1 Dr. T. J. Long, J. Garland Sur., 2 mi. S of Collinsville; 4,000-ft. test. S.D.O. 3,929 ft.

Henderson County

Tide Water-Seaboard-Humble No. 1 Sadie Starr McGee, R. Acosta Sur., 3¼ mi. NE of Murchinson. Drlg. 7,791 ft.

Houston County

Cook & Mayo No. 1 C. A. Walling, B. Parker Sur., 4 mi. N of Grapeland. Loc.
John G. Mayo and Cook No. 1 J. H. Klob, Fred Hemmeger Sur., 2 mi. N of Grapeland. Cg. 6,110 ft.
John G. Mayo and Cook No. 1 Ida Walling, Ben Baker Sur. Loc.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. Drk.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. S.D 30 ft.

McLennan County

C. E. Porter No. 1 B. D. Burchett, De la Vega Sur., just SE Waco. S.D. 695 ft.

Rains County

McKinley & Hastings No. 1 McTaggert, B. Milder Sur., 1 mi. W of Emory. S.D. 30 ft.

Red River County

Bentley-Sheppard & Stevens No. 1 So. Pine Lbr. Co., G. S. Parks Sur., 17 mi. N of Clarksville. S.D. 71 ft.

Smith County

J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. S.D. 1,879 ft.

Trinity County

C. D. Davis No. 1 J. D. Gibson, A. Donavan Sur., 4 mi. NE of Trinity. Gas blowout 148 ft.; S.D. 2,627 ft.

Upshur County

R. E. L. Johnson No. 1 Lizzie Parker, John B. Gay Sur. S.D. 103 ft.

Van Zandt County

Goody and Richards & Holloway No. 1 Rhodes, L. H. Bass Sur. D.&A. 4,300 ft.

NORTH TEXAS WILDCATS

Archer County

Birdwell Oil Co. No. 31-B Oil Inv. Co., Lot 2, John Richards Sur., 5 mi. NW of Archer City; 4,200-ft. test. R.U.R.
L. Sikes No. 1 Walter Ford, T. M. Cecil Sur. A-982. T.D. 4,204 ft.; O.W.D.D. to 5,500 ft.; T.D. 4,437 ft.; B.S.S.O. 4,379-4,400 ft.; cmt. 5⅛-in. liner on bottom bailing mud; to perf.
Westmount Oil Co. No. 7 T. J. Dempsey, Sec. 10, D.C.S.L. Sur., O.W.D.D. Perf. csg. 4,139-44 ft.; blg. wtr. and tstg.

Baylor County

British American Oil Prod. Co. No. 1 F. C. Green, T.&N.O. Sur., Sec. 215. Big. est. 20 B.O.P.D. from 2,550-2,600 ft.; 6⅝-in. 2,579 ft.; sat. L. 2,579-2,635 ft.; P.B. 2,635 ft.; est. 550 bbls. on pmp.

Cooke County

H. W. Caudle No. 1 E. E. Walker, H. Gilman Sur.; 5,500-ft. test. Setting surface pipe.
Sinclair Prairie No. 3 J. M. Best, T. Toby Sur. A-1054. Drlg. 2,250 ft.
Whitfield et al No. 1 B. Voth, Z. D. Fulton A-1250 Sur. 6⅝-in. 1,595 ft.; 5⅛-in. 1,793 ft.; sat. L. 1,783-93 ft.; est. 500 bbls.; 10 hrs.; S.D. for test.

Foard County

Fleetwood & Kaufman No. 1 Prowers, H.&T.C. Sur., Blk. A. S.D.O. 5,005 ft.

Grayson County

O. L. McDougal No. 1 Jackson, H. Coffee Sur., Abst. 204; 4,000-ft. test. Fsg. 562 ft.
J. H. McMurray No. 1 T. J. Long, Jas. Garland Sur. A-441. S.D.O. 3,929 ft.; ran Schlumberger; S.S.O. 2,595-2,601 ft.
C. E. Marshall No. 1 F. Christman, M. Ahalt Sur. A-147. S.S.O. 830-38 ft.; tstg.

Jack County

H. R. Lippitt No. 1 S. Franklin, H. Ferguson Sur. A-215. Tstg. S.S. gas 2,825-40 ft.; drlg. 4,510 ft.
Noah Daves No. 1 K. D. Baker, Sec. 2709, T.E.L. Sur.; 4,000-ft. test. Recmt. 10-in. at 90 ft.; S.D.O. 2,320 ft.

Montague County

Lobban et al No. 1 Henry Payne, Wm. Donoho Sur. A-178. S.D. 1,130 ft.
Youngblood & Foree No. 1 J. A. Burnett, J. Lenow Sur. A-433. 4¾-in. 4,638 ft.; O.S. 4,640-56 ft.; flwg. 30 B. P.H.

Wichita County

F. S. Freeland No. 1 J. D. Cooper, H. Hastie A-92; 4,000-ft. test. Spd. and S.D.

Wise County

H. Jackson No. 1 F. Neeley, Blk. 29, Matagorda Co. Sch. Ld. Spd. and S.D.
H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Lds. Plts.

Wilbarger County

Humble O. & R. Co. No. 1 T. J. Milner, Sec. 31, H.&T.C. Sur., Blk. 9; 3,000-ft. rotary test. Loc.

Young County

H. M. Leidecker No. 1 J. M. Nall, Sec. 1997, T.E.&L. Sur. Drlg. 705 ft.
Long & Lupton No. 1 A. Crouch, I.&G. N. Sur. A-1460. 6⅝-in. 3,865 ft.; sat. L. 3,940-44 ft.; S.D.O.
Magnus & McLester No. 1 B. B. Teague, E. S. Colthrop Sur. A-1390. Drlg. 2,435 ft.
Pitzer-West No. 1 Robt. Bulloch, J. P. Hume Sur., Abst. 140. 5⅛-in. 4,169 ft.; O.S. 4,338-39 ft.; flwd. 150 bbls., 1 hr.; S.D. for storage.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. D. Bruce No. 1 L. J. Mauldin, Sec. 15, H.&T.C. Sur. Sp.&S.D.
Evans No. 1 J. F. Davis, S. Tull Sur. No. 894. Spd. and S.D.

Callahan County

Dobbs Oil Co. No. 1 Finley, Sec. 75, Bayland Orphans Home Ld. Fsg. tools 1,785 ft.
Hal Hughes No. 1 Cooke & Jordan, Geo. Hancock Sur., Sec. 350. Comp.; 30 B. O.P.D.; T.D. 4,440 ft.
J. C. Jackson and Doug. Tomlinson, Jr., No. 1 T. J. Thompson, Sec. 30, B.B.B. &C. Sur. Prep. U.R. 1,815 ft.
Roeser & Pendleton No. 1 Chas. Yost, Sec. 18, Blk. 8, S.P. Sur. Drlg. 2,740 ft.

Coleman County

Arcadia Ref. Co. No. 1 W. R. Roberts, D. J. Holt Sur. S.D. 2,904 ft.
P. A. Graves No. 1 F. Gillespie, N. B. Walters Sur. D.&A. 2,380 ft.
E. E. Kirkpatrick No. 1 F. Nixon, Burnett C.S.L. Sur. U.R. 2,208 ft.

Comanche County

Comanche O. & G. Co. No. 1 J. E. McGuire, C. Rockefeller Sur. No. 3. Drlg. 2,165 ft.
O. L. Johnson No. 1 Mrs. W. Jones, Sec. 34, H.&T.C. Sur., Abst. 1610. C.O. 2,835 ft.
Loraine No. 1 Carlisle, Sec. 9, Blk. 2, H.&T.C. Sur. S.D. csg. 2,601 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, J. E. Hardy Sur., Ellenburger test. S.D. 1,738 ft.
Hickok P. & D. Co. No. 1 Penn, Sec. 468, S.P. Sur. D.&A. 4,150 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. S.D. 3,820 ft.
Collard No. 1 W. L. Payton, H. Pierson Sur. No. 1, Abst. 1105. S.D. 185 ft.

Fisher County

General Crude No. 1 M. M. Flores, Sec. 212, Blk. 1, B.B.B.&C. Sur. S.D. 3,010 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. Fsg. baller 2,200 ft.

Haskell County

Sawyer Drlg. Co. No. 1 A. J. Rowland Est., Sec. 5, Blk. 3, H.&T.C. Sur., 15 mi. E of Stamford. P.B. 4,900 ft.; tstg.

Hood County

Prince & Miller No. 1 J. H. Andrews, NW cor. of Geo. Sutherland Sur. S.D. 524 ft.

Jones County

Brown Eagle No. 1 Waterson, Andrews Sur. No. 191. T.D. 2,283 ft.; S.D.
Grover, Rose & Farrell No. 1 O. D. Swanson, Sec. 193, B.B.B.&C. Sur., 2 mi. NE of Avoca. Drlg. 1,440 ft.
Hedrick Oil Co. No. 1 S. T. Morrison, Sec. 137, Martinez Sur. Drlg. 1,770 ft.
Lucille Manley No. 1 fee, Sec. 4, Blk. 15, T.&P. Sur. T.D. 1,892 ft. in sand; U.R.
J. H. Sproules No. 1 James Nichols, Sec. 47, Blk. 16, T.&P. Sur. Drlg. 960 ft.

Nolan County

Chas. E. Peddicord No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. S.D.O. 2,827 ft.
Union Oil Co. No. 1 J. D. Pepper, Sec. 51, Blk. 21, T.&P. Sur.; 5,000-ft. test. 6 mi. SW Sweetwater. U.R. 3,850 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.&P. Sur., Abst. 1958. S.D. 2,200 ft.
Glen Rose No. 1 H. D. Groves, SW¼ Sec. 350, T.&P. Sur. S.D.; T.D. 685 ft.

Shackelford County

Joe DeGrazier No. 1 Harbough, E cen. part of county, Sec. 1563, T.E.&L. Sur. 4,500-ft. test. S.D. 3,894 ft.
Fox & Rudd No. 1 Shotwell, Sec. 59; B.A.L. Sur. Fsg. 1,632 ft.
R. H. Gordon and Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, Sec. 38, L.A.L. Sur.; 4,500-ft. test. Est. 20 to 50 B.O.P.D.; T.D. 3,660 ft.; S.D. 4,293 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., Sec. 979, T.E.&L. Sur. Drlg. 4,306 ft.; last report.

Personal Paragraphs

K. G. MACKENZIE, manager of the Texas Co.'s research department, has been appointed chairman of the American Petroleum Institute's Division of Refining 1939 program committee. J. HOWARD PEW, president, Sun Oil Co., Philadelphia, A.P.I. vice president for refining, made the appointment.

A. W. TRUSTY, chief chemist of the Arkansas Fuel Oil Co., Shreveport, La., will preside at the monthly meeting of the Ark-La-Tex chapter of the Western Petroleum Refiners Association in Shreveport this week. The meeting will be devoted to questions and answers concerning technical developments in refining.

H. G. HOTCHKISS, geologist of Wichita, Kans., has started work on another volume of Kansas geology.

WALTER KUNZ, of the Quaker State Refining Co., with offices in Oil City, Pa., is spending a vacation in California.

J. FRANK DRAKE, president of the Gulf Oil Corp. and director of the Pullman Co., is in Los Angeles, Calif., on a business and pleasure trip. He is initiating a new radio program for Gulf.

R. C. OSTERSTROM, executive assistant in Chicago of the Pure Oil Co., has been made manager of the Toledo (Ohio) refinery of the company. O. B. WENDELN continues as superintendent of operations.

C. E. REISTLE, JR., of the Humble Oil & Refining Co., Houston, Tex., has been appointed 1939 chairman of the program committee of the American Petroleum Institute's Division of Production central committee on drilling and production practices. C. A. YOUNG, of the Institute staff, Dallas, Tex., is secretary.

WALTER J. RANTANEN, gasoline analyst in the Tulsa laboratory of the Ethyl Gasoline Corp., has been transferred to Baton Rouge, La., where he will do the same work. Mr. Rantanen, who has been with the company nine years, graduated in 1928 from the University of Michigan, where he majored in chemistry, and he first was employed in the General Motor Co.'s research department in Detroit. He is an enthusiastic stamp collector.

M. J. GROGAN, president of the Grogan Oil Co., Shreveport, La., is recovering from a leg fracture suffered in a recent accident and is expected to be back at his desk soon.

C. P. WATSON, vice president of Seaboard Oil Co., was elected president of the California Oil and Gas Association at a recent meeting of the board of directors. L. P. ST. CLAIR, chairman of the board of Union Oil Co. of California, and R. E. COLLOM, vice president of Continental Oil Co., were reelected vice presidents. H. L. WESTBROOK, vice president of Belridge Oil Co., was reelected treasurer. F. E. FOSTER continues as managing director and D. S. KILGOUR as assistant manager.

J. R. MUNCE, vice president of the Arkansas Fuel Oil Co., Shreveport, La., has established an educational fund to be used in aiding worthy members or sons of members of the Doherty Men's Fraternity, in gaining a college education.

W. E. McMAHON, general counsel of the Huasteca Petroleum Co., has retired after 18 years in Mexico with Huasteca, the Compania Transcontinental de Petroleo, S.A., and other affiliates. After serving in the World War, "Judge" McMahon, as he was popularly known, took up law practice in the oil fields and in 1920 went to Tampico as attorney for Transcontinental.

C. HENRY AUSTIN has been promoted to a general attorney of Standard Oil Co. of Indiana, and FRED B. HANSON has assumed the duties formerly performed by Mr. Austin in connection with personal injuries, garnishments and the claim adjustment department. GORDON T. TAPPAN, of Port Huron, Mich., will join the company as an attorney January 16. Mr. Austin joined Standard in 1924 as assistant tax, legal and accident clerk in the Milwaukee, Wis., sales division, and was promoted to an attorney in Chicago in 1926. He graduated from Washington University school of law. Mr. Hanson, a graduate of Kent College of Law, joined the company in 1937 as an atorney. Mr. Tappan is a former assistant to the attorney general of Michigan. He graduated from the University of Michigan school of law.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

At the opening of the year the Mid-Continent fields (Kansas, Oklahoma, North Texas, and North Louisiana) produced 253,500 bbls. per day of which 192,000 bbls. was Oklahoma's share. The Gulf Coast of Texas and Louisiana produced 19,000 bbls. per day.

Leasing is active around Nevada, Vernon County, Missouri.

Roy M. Johnson, Ardmore, Okla., editor, who made a comfortable fortune in oil in the Healdton field, announces joyfully that hereafter he will print his uncensored opinions in his paper, the Ardmore Statesman, a thing he did not venture to do when he was trying to make a living out of the weekly publication.

20 YEARS AGO

One year ago the 770,000 acres of land in Eastland County, Texas, were worth very little even as farm or grazing land. The discovery of oil has made them worth an average of $150 per acre for oil leases, a total value of $115,500,000, exclusive of royalties.

A total of 8,367 wells were completed in Oklahoma in 1918, and 24,926 completions were recorded in the United States in the same year.

10 YEARS AGO

Humble Oil & Refining Co. establishes a personnel department, the first in Texas, and puts H. E. Bell at its head.

Charles E. Brown, vice president of the Warren Petroleum Co., dies in Tulsa on January 3.

Sam Carney, of Tulsa, has been made director of research for the Shell Development Co. in California.

William E. Frick, president of the Frick-Reid Supply Corp., dies at his home in Sewickley, Pa., on January 8.

E. L. McCARTNEY has been transferred to Mount Vernon, Ill., as manager for the Twin Drilling Co. of Tulsa.

MILES SCULL, JR., has been appointed director of public relations for the Lion Oil Refining Co., El Dorado, Ark.

D. R. MERRILL, manager of research for the Union Oil Co. of California, Wilmington, has been made a member of the American Petroleum Institute's advisory committee on fundamental research. He succeeds the late R. E. Haylett.

J. W. VAN DYKE, chairman of the board of directors of the Atlantic Refining Co., observed his ninetieth birthday December 27. For 69 years he has been in the refining and marketing branches of the oil industry.

A. C. STEWART has been appointed assistant vice president in charge of sales of the Union Oil Co. of California, Los Angeles, and W. A. NEWHOFF and J. E. GOODERIDGE have been appointed manager of sales and assistant to the manager of sales respectively.

ARTHUR T. ROBERTS, Bronxville, N. Y., treasurer of the Socony-Vacuum Oil Co., Inc., since 1935; LAWRENCE B. LEVI, New York, chairman of the foreign trade committee; WILBUR F. BURT, New York, chairman of the manufacturing committee, and B. BREWSTER JENNINGS, Glenhead, N. Y., assistant to the president, have been elected to the board of directors. Their terms of service in the company range from 19 to 41 years.

W. R. FINNEY, president of the Oklahoma Pipe Line Co., has been named chairman of the senior scouting committee of the Tulsa area council, succeeding B. P. SIBOLE, vice president of the Stanolind Pipe Line Co.. A part of the program planned for the coming year is a trip to Philturn, Rocky Mountain camp in New Mexico, given to the Boy Scouts by WAITE PHILLIPS, independent oil operator of Tulsa.

SHIFTS: S. G. RUTHERFORD, production superintendent, Carter Oil Co., from Stonewall, Okla., to Seminole, Okla.; WILLIAM A. WATKINS, Carter Oil Co., from Seminole, to Mattoon, Ill.; SETH COCKERELL, Lawson Petroleum Co., from Abilene, Tex., to Wichita Falls, Tex.; FRANK VOLGER, Owensboro Corp., from Centralia, Ill., to Mount Vernon, Ill.; GEORGE W. LAPEIRE, engineer, from St. Louis, Mo., to Belleville, Ill., CHANNING SCHWARTZ, geologist, Carter Oil Co., from Topeka, Kans., to Ardmore, Okla.; IVAN J. FENN, geologist, from Pana, Ill., to Amarillo, Tex.; T. DEAN MUNDORF, geologist, Gulf Refining Co., from Boonville, Ind., to Vincennes, Ind.; J. C. TREES, director, Benedum Trees Oil Co., from Gibsonia, Pa., to San Antonio, Tex.; BEN COYLE, drilling contractor, from Houston, Tex., to Jeanerette, La.; JAMES B. HAMMOND, Hammond Oil Co., from Houston, Tex., to New York; EDWARD CHRISTMAN, drilling contractor, from West Branch, Mich., to Edgewater, Fla.; MARK H. O'CONNELL, geologist, Cities Service Oil Co., from Stockton, Kans., to Hays, Kans.; J. BROOKE REED, drilling contractor, from Bloomingdale, Mich., to Union City, Mich.; W. H. FLOOD, JR., Railroad Commission of Texas, from Wichita Falls, Tex., to Houston, Tex.; W. H. VERNOR, producer, from Hot Springs, Ark., to Houston.

Forsees Oil in Alaska

Carl H. Beal has been interested in the oil possibilities in Alaska for more than 20 years. His active work in the territory began 17 years ago when, as chief geologist for the Marland Oil Co., he sent a party of geologists into the tundras east of Point Barrow in the Arctic Circle. Good oil seeps and other indications were found, but because open water for shipping was available only six weeks out of the year the area was condemned. During 1923 and 1924, Mr. Beal's attention was turned away temporarily from Alaskan matters while he and his staff carried on the geological work which later led to the Kettleman North dome discovery, one of the world's largest oil fields.

CARL H. BEAL

In 1930 Mr. Beal began a concentrated study of the structure and stratigraphy of the eastern coast of the Alaskan Peninsula. With Russel E. Havenstrite, president of the California Western Oil Co., he leased the oil rights on the Iniskin structure. Later the Iniskin Drilling Co. was formed to drill a test well, which was started in 1936. Continuing his study of Alaska, Mr. Beal mapped the five structures and assembled the acreage now under lease jointly by Standard Oil Co. of California, Tide Water Associated Oil Co., and Union Oil Co. Three of these structures are in the Wide Bay area and two are in the Cordova-Katalla district.

After 20 years of study Mr. Beal says he is more firmly convinced than ever before of the oil possibilities in Alaska.

P. R. APPLEGATE has been chosen president of the Indiana Pipe Line Co. He succeeds D. S. RUSSELL, who held the office 27 years and who will continue to serve as a director and as chairman of the executive committee.

JAMES A. PELL, who has been on special assignment at the head offices of the Shell Oil Co. in San Francisco, has been made eastern sales representative of that company, with headquarters at the main office of Shell Union Oil Co. in New York.

KATHERINE SHARPE, Socony-Vacuum Oil Co., Inc., purchasing department employe, was honored recently on completion of 20 years' service with the company. J. R. TAYLOR, purchasing agent, presented her with a gold wrist-watch on behalf of department associates.

W. E. GILBERT, Shell Oil Co., Los Angeles, Calif., is chairman of the 1939 executive committee announced by the Central Committee on Drilling and Production Practice of the American Petroleum Institute's Division of Production. C. E. REISTLE, JR., of Humble Oil & Refining Co., Houston, Tex., is vice chairman, and C. A. YOUNG, of the Institute staff, Dallas, Tex., is secretary. The other members of the committee are M. ALBERTSON, Shell Petroleum Corp., Houston; J. C. ASKAM, Ohio Oil Co., Findlay, Ohio; D. L. CALDWELL, Barnsdall Oil Co., Los Angeles; M. L. HAIDER, Standard Oil Development Co., New York; J. T. HAYWARD, Barnsdall Oil Co., Tulsa; E. F. KINDSVATER, Phillips Petroleum Co., Bartlesville, Okla.; H. N. MARSH, General Petroleum Corp. of California, Los Angeles; C. D. MILLER, Barnsdall Oil Co., Tulsa; H. H. POWER, University of Texas, Austin; B. B. WESCOTT, Gulf Research & Development Co., Pittsburgh, Pa.

HARRY J. KAUFMAN, sales promoter (wholesale) in Joliet, Ill., for the Standard Oil Co. of Indiana, has been promoted to assistant manager in Quincy, Ill. He joined the company in 1927 as a salesman in Joliet.

E. P. HUBBARD of the Gulf Oil Corp., Houston, Tex., has been appointed chairman of the program committee for the spring meeting of the southwestern district, American Petroleum Institute, Division of Production, to be held at the Plaza Hotel, San Antonio, Tex., March 16 and 17. W. S. MORRIS is district chairman.

MRS. AVA FLOTTMAN, of Burden, Cowley County, Kansas, is the only active woman oil jobber in Kansas and probably, with one exception, in the northern Mid-Continent. Mrs. Flottman accepted the challenge of sudden business responsibility thrown upon her shoulders two years ago, when her husband died, and she assumed personal management of the Flottman Oil & Gas Co. Four men are employed at the bulk plant or on the company truck that distributes products in northern Cowley County. The bulk plant has a capacity of 40,000 gallons, and Mrs. Flottman sells about 10,000 gallons a month.

DANA CLARK, of the Standard Oil Co. of California, who has been in Calcutta, India, for several years, is spending a vacation in California. He will return to the Far East early in February.

W. F. KNODE, chairman of the Alberta Gas Conservation Board, is expected to return to Calgary about January 15 after spending the holiday season with his family in Corpus Christi, Tex.

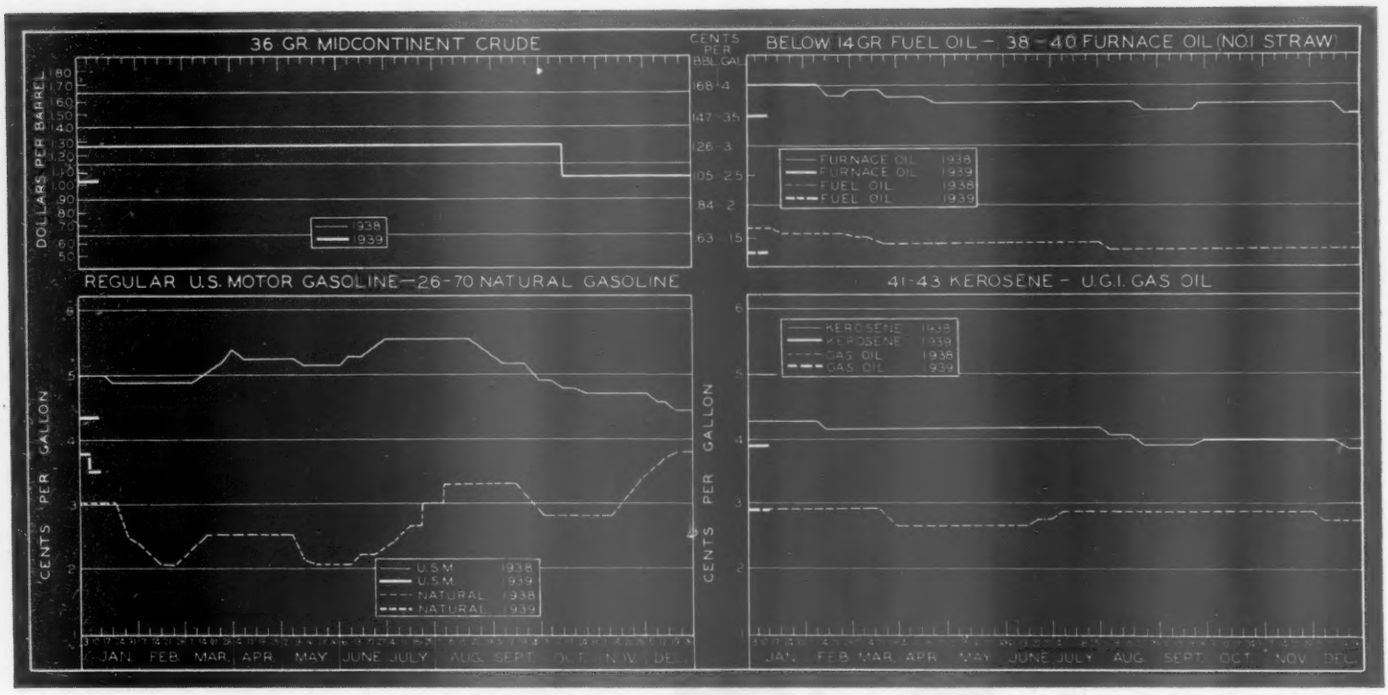
ZENN KAUFMAN, New York; T. L. GAUKEL, St. Louis, Mo., and JAMES F. LAWRENCE, Tulsa, head the speaking program prepared for the annual meeting of the Missouri Independent Oil Jobbers Association, in Hotel De Soto, St. Louis, January 18 and 19. A banquet will be held Wednesday evening, followed by a dance and floor show.

RONALD K. DeFORD, Argo Oil Corp.; GEORGE C. GESTER, Standard Oil Co. of California; DR. FRANK S. HUDSON, Shell Oil Co.; ROBERT I. ROTH, Humble Oil & Refining Co.; CLARENCE W. SANDERS, Shell Petroleum Corp., and DR. JAMES O. G. SANDERSON, Home Oil Co., were petroleum geologists elected to fellowship in the Geological Society of America at its annual meeting in New York.

SIR ANDREW AGNEW has been appointed chairman of Venezuelan Oil Concessions, Ltd., replacing VISCOUNT BEARSTED, who resigned December 31 both as chairman and as a director of the company.

DR. BRANDON H. GROVE, geologist for the Socony-Vacuum Oil Co. in Central Europe, sailed from New York after spending the holidays in the United States. His headquarters are at The Hague, Holland.

M. T. HALBOUTY, vice president, Merit Oil Corp., Houston, Tex., has been elected chairman of the Gulf Coast section, American Institute of Mining and Metallurgical Engineers, succeeding CHARLES A. WARNER, Houston Oil Co. J. U. TEAGUE, chief engineer of the Humble Oil & Refining Co.'s Gulf Coast division, is the new vice chairman and ALEXANDER DEUSSEN, consulting geologist, is secretary-treasurer (reelected). In addition to the new officers and past president, members of the board of directors elected are HAROLD VANCE, Texas A. & M. College, Bryan, and HARRY H. POWER, University of Texas, Austin, two-year terms; E. H. McFARLAND, Freeport Sulphur Co., and GEORGE NYE, Tide Water Associated Oil Co., one-year terms.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Gasoline Prospects Looking Brighter in Group 3 Area, but Naturals Sag

By T. F. SMILEY

Gasoline prospects looked a little brighter in the Group 3 area this week. Refiners indulged no illusions concerning prices. They saw no likelihood of an early upturn, but believed a stronger market was in the making. "We've hit bottom," remarked a sales manager. "There's only one way prices can go now—that's up."

Some of the larger refiners are buying gasoline for current requirements and storing much of their own production. Since they buy at resale prices and sell at ruling tankcar quotations they make a little on the transaction while saving their own material for the better return which they expect to be obtainable later. At the same time they are helping to stabilize the market.

A healthier condition has been developing in East Texas in recent weeks. Pipeline companies which not long ago were reducing their takings of crude are reported now to be seeking connections.

Few Friends Left

The old third-grade gasoline (62 octane and below) has few friends left. As the new 67-octane material, first introduced by the Standard Oil Co. of Indiana, attains wider adoption the low-octane grade which it displaced encounters harder and harder going. Throughout the 10 states in which the Standard of Indiana is recognized as the key marketing organization there has been a general movement among other companies with retail outlets in the same states to install a competitive fuel. As it is sold at the same price as the old third grade, the call for the latter is declining steadily. Sales managers report, however, that except for material originating in Illinois there is a slight slowing up in the offerings of low-octane gasoline.

Refined Oil Market Barometer

Unseasonably mild temperatures over wide areas, including the eastern coast, have checked the rising strength of heating oils, but the interruption is believed to be temporary. Gasoline gallonage satisfactory, but prices continue subnormal. Natural gasoline, on the ascendant since mid-November, starting to decline. Heavy fuels gaining strength. Pennsylvania bright stocks up.

MID-CONTINENT. Gasoline slightly firmer. Naturals off. Heating oils slow.

EAST COAST. Heating oils improve position. Gasoline inactive. Heavy fuels firm.

GULF COAST. Bunker fuel cargoes tight. Kerosene steady. Gasoline sluggish.

PENNSYLVANIA. Bright stocks recovering lost ground. Gasoline quiet.

CALIFORNIA. Restricted production improving natural gasoline. Markets inactive.

CHICAGO. Furnace oil demand disappointing. Gasoline unsettled. Heavy fuels fair.

Just what effect the expected raising of antiknock ratings will have on the whole range of motor fuels it is too early to predict with accuracy. That it will create a tendency on the part of motorists to use better-quality fuel seems assured. That it will be a factor in raising tankcar prices to a profitable level is likely. An opinion finding increasing acceptance is that the 1939 season of heavy consumption will witness widened demand for high-quality gasoline and willingness to pay for the better performance afforded by it.

Natural gasoline, which since mid-November had afforded most of the strength visible in the petroleum products, tumbled at last. Refiners who bought heavily for winter-specification motor fuel do not know how soon they will have to change to spring-specification, that being something for the weather man to decide. In the meantime purchases of natural are being made on a day-to-day basis, and there is not enough of this to absorb all the current output. Small plants with limited storage facilities were the first to feel the effect of the changed conditions, and their efforts to move surplus material brought about the break in prices.

Concern Over Heating Oils

Return of mild weather in much of the territory served by Oklahoma refiners has increased concern over the heating oils, especially as some of the smaller refiners are finding it necessary to shade prices to effect prompt movement. In its larger aspects, however, the situation does not yet offer reasons for anxiety. A. P. I. figures show that at the opening of the year the country's stocks of gas and fuel oil totaled 144,823,000 bbls. But 98,494,000 bbls. of this was in California. That is to say, less than one-third of the accumulation was east of the Rocky Mountains. On the East Coast the demand for burning oils is vigorous, and inventories have fallen sharply. In the Mid-Continent, where refiners are worrying, stocks declined from 4,670,000 bbls. in mid-October to 4,406,000 at the beginning of the current month. Not an impressive drop, it is true. But it is a drop—not a rise. And informed market observers say that unless a phenomenally mild winter lies ahead the burning oil situation holds no serious threat to the Group 3 refiner.

Second Raise in Heating Oils an Eighth on Most Grades

By H. STANLEY NORMAN

NEW YORK, Jan. 10.—The second heating oil price advance of the winter developed in New York last week moving most of the light domestic burning grades up an eighth of a cent to 4¼ cents per gallon in tankcars. The tankcar price advance for the present was confined to New York and was instituted by Standard Oil Co. of New Jersey on its branded products. Other suppliers were reported selling at approximately the same level when the week ended. The Standard of New Jersey tankcar price advance was made effective January 5.

Light fuel oils, Nos. 2 and 4 grades, were available in some directions for 4⅛ cents per gallon in tankcars, but this figure was asked by a majority of suppliers for barge delivery in the New York Harbor area. Tank-wagon fuel oil prices for grades Nos. 2 and 4 were elevated a quarter of a cent per gallon throughout New Jersey late in December and this was followed by a similar advance January 4 at Washington, D. C. Most suppliers are quoting 6¼ cents per gallon for Nos. 2 and 4 fuel oil in the New Jersey tank-wagon trade at the present. In Washington the tank-wagon price is 6¾ cents, which includes the advance of a quarter of a cent on January 4.

The tankcar prices of practically all other grades of fuel oil were elevated in New York an eighth of a cent per gallon January 4. The products involved include gas oil, shore plant Diesel, distillate and industrial fuel oil.

Kerosene gained strength in sympathy with the Nos. 2 and 4 fuel oils, but the general price level was unchanged. Sellers are quoting from 4¾ to 4⅞ cents per gallon for water white kerosene in tankcars at New York Harbor refineries. The tank-wagon price in New Jersey is reported firm at 8 cents per gallon which is the same quotation as generally heard on the New York side of the Hudson River.

New Haven, Conn., was one of the kerosene market points of low resistance in the New England section. Kerosene was reported offered by a few New Haven sellers at around 6 cents per gallon to the tank-wagon trade which is practically on a par with No. 2 fuel oil quotations. In tankcars at New Haven kerosene was offered at 4¾ cents per gallon, indicating that most of the price cutting is between the tank-wagon dealers.

The general advance in fuel oil last week was not unexpected. Consumption has been moving forward on the strength of moderately cold weather which was abruptly interrupted by extremely mild temperatures at the end of last week. The interruption in burning requirements was considered as a temporary matter by fuel oil suppliers, however, and the general opinion is that the most recent price advances were overdue and will withstand any slight letup in demand. Most suppliers are now quoting .0285 to .03095 for industrial fuel oil delivered to shore plants.

There was no change reported in the Bunker C fuel oil market last week. The New York price remains strong at 95 cents per barrel and Gulf Coast refiners are quoting from 70 to 72½ cents per barrel to cargo purchasers. Tank ship charter rates underwent a slight reaction from their steady climb last week. Tankers were offered for charter at about 25 to 27 cents per barrel for coastwise movement of products. The past week's price range is off approximately 2 cents per barrel from quotations prevailing during the final two weeks of December. Several dirty boats were reported available for charter in January although prospects for February appeared a bit tighter, according to ship brokers. The tanker supply may have a tendency to defer any advance in Bunker C fuel oil which trade observers had considered likely until more recent developments within the past few days.

The motor fuel market last week was without feature. Tankcar prices for 65-octane material were about unchanged from the preceding week and ranged between 5¾ cents to 6¼ cents per gallon, depending on the source of supply and the method of delivery. Consumption was said to have been satisfactory over the Christmas and New Year holiday season. Most of the traffic arteries leading to and from New York were used to record extent. The toll collections through the Holland Tunnel and over the George Washington Bridge set new records for all similar periods. The major airlines were booked almost to the capacity of their equipment and excursion rates offered by railroads received record acceptance.

The post-holiday activity customarily causing a bulge in the market due to replenishment of stocks had not developed sufficiently at the end of last week to determine just how important this seasonal element will prove this year. Certain provisions of the tax laws have detracted from the desirability of whittling inventories to the bone and this had tended to minimize the cessation of purchases just before January 1. There was evidence, however, in the motor fuel stock picture that purchases had been on a hand-to-mouth basis during the final week of December. Reports were current in New York that one refiner had accepted a contract to supply 2,000,000 gallons of gasoline to a New England customer over 1939 at 6¼ cents per gallon. Details of the contract were not available, but trade rumors were that it involved 68-70-octane motor fuel. Another contract which may give some indication of market expectations for 1939 was accepted by an eastern refiner to supply the New York Post Office with 600,000 gallons of 65-octane gasoline at approximately 6 cents per gallon.

Revised commercial consumer discount rates in North and South Carolina have been issued by Standard Oil Co. of New Jersey. The revisions became effective December 19, 1938. On single deliveries of 50 to 149 gallons in North Carolina the customer is to be billed at 1 cent per gallon over the posted consumer tankcar price. On single deliveries of 150 gallons and over the new billing is at the rate of one-half cent per gallon over the posted consumer tankcar price. On deliveries of less than 50 gallons, bills are made on a basis of 6 cents per gallon above the posted consumer tankcar price.

In South Carolina, single deliveries of 25 to 149 gallons are billed a cent over the consumer tankcar price and a half cent over on single deliveries of 150 gallons and over. On deliveries of less than 25 gallons the price is 6 cents above the posted consumer tankcar price.

Wax markets were firm to strong at both New York and New Orleans. White crude scale is generally quoted at about 2.35 to 2.4 cents per pound and demand appears to be keeping in step with supply.

Indications are that little change will be apparent in the domestic petroleum export trade during the first few weeks of 1939. Contracts closed during the final weeks of 1938 and current activity in the spot export

(Continued on Next Page)

A. P. I. Weekly Refinery Statistics

Week Ending January 7, 1939

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	494,000	17,715,000	12,532,000
Appalachian	85.9	94,000	3,086,000	782,000
Indiana, Illinois, and Kentucky	89.5	442,000	11,621,000	7,243,000
Oklahoma, Kansas, and Missouri	81.6	225,000	6,481,000	4,389,000
Inland Texas	50.3	87,000	1,725,000	1,952,000
Texas Gulf	88.9	777,000	9,662,000	10,883,000
Louisiana Gulf	97.3	120,000	2,331,000	2,263,000
North Louisiana and Arkansas	55.0	42,000	486,000	861,000
Rocky Mountains	54.2	38,000	1,320,000	683,000
California	90.0	500,000	13,921,000	98,395,000
Total reported	85.6	2,819,000	68,348,000	139,983,000
Estimated unreported	.....	351,000	4,470,000	3,350,000
*Estimated total	.....	3,170,000	72,818,000	143,333,000
*Estimated total previous week	.....	3,115,000	71,695,000	144,823,000
*January 8, 1937	.....	3,210,000	76,990,000	117,585,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending December 24, 1938	271,718,000 barrels
Week ending December 17, 1938	269,931,000 barrels
Week ending December 25, 1937	303,294,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 10, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank wag.
Chicago, Ill.	15.1	12.1	4.0	10.0
Decatur	15.1	12.6	4.0	10.0
Joliet	15.1	12.6	4.0	10.0
Peoria	15.1	13.1	4.0	10.0
Quincy	14.9	12.9	4.0	8.7
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.0	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.0	5.0	10.3
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.1	11.6	4.0	9.0
Grand Rapids	14.8	13.05	4.0	9.7
Saginaw	15.8	14.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†9.5
South Bend	17.1	15.6	5.0	†9.0
Fargo, N. Dak.	16.7	15.2	4.0	11.6
Minot	18.0	16.5	4.0	12.9
Huron, S. Dak.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	11.9	4.0	7.5
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	11.2	4.0	9.3
Wichita, Kans.	13.9	10.6	4.0	7.3

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective November 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents, 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 4.75 cents; 400 gallons and over 3.75 cents. Stanolex grade B, 1-799 gallons, 4.75 cents; 800 gallons and over, 3.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Inc. tax	Kero. tank-wag.
Atl'tic City, N. J.	12.7	10.9	4.0	8.0
Newark	12.7	10.9	4.0	8.0
Annapolis, Md.	14.35	12.85	5.0	9.5
Baltimore	13.75	12.25	5.0	8.5
Cumberland	16.15	13.65	5.0	10.0
Wash'g'n, D. C.	12.0	10.50	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	11.0
Charles'n, W. V.	16.55	14.05	6.0	12.6
Parkersburg	14.85	13.35	6.0	11.2
Wheeling	15.75	14.35	6.0	12.2
Charlotte, N. C.	18.15	15.65	7.0	12.1
Hickory	18.65	16.15	7.0	12.5
Mt. Airy	18.45	15.95	7.0	12.3
Raleigh	17.75	15.25	7.0	11.6
Salisbury	18.25	15.75	7.0	12.2
Charleston, S. C.	16.75	14.25	7.0	10.6
Columbia	17.25	15.25	7.0	11.6
Spartanburg	18.45	15.95	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective December 19, 1938, the following policy for the sale of motor fuel by tank-wagon to commercial consumers in North Carolina was instituted: Single deliveries of 50 to 149 gallons, inclusive, 1 cent over posted consumer tankcar price; single deliveries of 150 gallons and over, .5 cent over posted consumer tankcar price; deliveries of less than 50 gallons, 6 cents above posted consumer tankcar price.

Effective December 16, 1938, the following policy for the sale of motor fuel by tank-wagon to commercial consumers in South Carolina was instituted: Single deliveries of 25 gallons to 149 gallons, inclusive, 1 cent over posted consumer tankcar price; single deliveries of 150 gallons and over, .5 cent over posted consumer tankcar price; deliveries of less than 25 gallons at one time, 6 cents above posted consumer tankcar price.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Tank-wag. con'r	Gasoline Net dlr.	Inc. tax	Kero. tank-wag.
Atlanta	20.5	17.5	7.0	8.5
Augusta	19.5	16.5	7.0	10.0
Macon	18.0	15.0	7.0	11.0
Savannah	19.0	16.0	7.0	8.0
Birm'ham, Ala.	21.0	18.0	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	21.0	19.0	9.0	10.5
Jackson, Miss.	17.5	14.5	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	20.0	17.0	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	20.0	17.0	8.0	8.0
Lexington, Ky.	19.0	16.0	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	17.5	14.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallon discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Inc. tax	Kero. tank-wag.
Denver, Colo.	15.5	5.0	11.5
Grand Junction	16.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Billings, Mont.	18.0	6.0	13.0
Butte	19.5	6.0	15.5
Great Falls	18.0	6.0	15.5
Helena	20.0	6.0	15.5
Salt Lake City, Utah	16.0	5.0	16.0
Boise, Idaho	19.0	6.0	18.0
Twin Falls	19.5	6.0	18.0
Albuquerque, N. M.	16.0	*6.5	12.0

*Includes city tax of .5 cent.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank-wag. con'r.	Gasoline Di-vided dlr.	Inc. tax	Kero-tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank-wag.	Gasoline Serv. sta.	Inc. tax.	Kero. tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

*Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline T'wag. dealer	Gasoline T'car consr.	Inc. tax	Kero. tank wag.
Albany	13.8	11.75	5.0	8.0
*Met. N. Y.:				
Manhat., Bronx	12.9	11.75	5.0	8.0
Staten Island	12.9	11.75	5.0	8.0
Q'ns & Bklyn.	12.9	11.75	5.0	8.0
Buffalo	12.9	12.6	5.0	7.5
Rochester	13.5	12.7	5.0	8.5
Syracuse	13.5	12.4	5.0	8.5
Boston, Mass.	12.5	10.5	4.0	7.5
Portland, Me.	14.0	11.75	5.0	8.75
Manch'ter, N. H.	14.5	12.3	5.0	8.5
Burlington, Vt.	13.5	12.3	5.0	9.0
Springf'd., Mass.	13.0	11.0	4.0	7.5
Worcester	13.0	11.0	4.0	8.0
Hartford, Conn.	12.9	10.9	4.0	6.5
New Haven	12.3	10.8	4.0	7.0
Providence, R. I.	12.5	10.5	4.0	7.5

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pennsylvania, Delaware, and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Inc. tax	Kero. tank-wag.
Phil'delphia, Pa.	13.0	12.0	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	...	5.0	10.5
Wilmington	12.5	...	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank-wag. dlr.	Gasoline Tank-car con'r.	Inc. tax	Kero. tank-wag.
N. Orleans, La.	19.25	16.75	*10.0	†11.0
Baton Rouge	17.25	14.75	8.0	‡10.5
Alexandria	17.25	14.75	8.0	‡12.5
Lafayette	17.50	15.00	8.0	‡12.5
Lake Charles	17.25	14.75	8.0	‡12.5
Shreveport	16.00	13.50	8.0	‡11.0
Knoxville, Tenn.	20.50	18.00	8.0	14.5
Memphis	18.50	16.00	8.0	12.5
Chattanooga	20.00	17.50	8.0	14.0
Nashville	19.50	17.00	8.0	12.0
Bristol	19.00	18.25	8.0	14.5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank-wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Omaha	17.5	16.0	6.0	10.3
McCook	17.5	16.0	6.0	10.0
Norfolk	17.9	14.9	6.0	10.7
North Platte	18.3	15.4	6.0	11.0
Scottsbluff	17.0	13.9	6.0	11.8

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Inc. tax	Kero. tank-wag.
Muskogee, Okla.	13.5	5.0	7.0
Oklahoma City	12.5	5.0	7.0
Tulsa	12.0	5.0	6.0
Fort Smith, Ark.	14.25	5.0	7.5
Little Rock	16.75	7.5	9.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline Tank-wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Dallas, Tex.	14.0	17.0	5.0	8.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	20.0	6.0	14.5
Toronto, Ont.	21.0	6.0	15.5
Hamilton, Ont.	21.0	6.0	15.5
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Kentucky) reduced tank-wagon consumer and net dealer gasoline .5 cent in Lexington and Paducah December 17; 1 cent in Jackson December 7; .5 cent in Vicksburg December 5; .5 cent in Augusta November 26; 2 cents in Macon December 24. Reduced tank-wagon kerosene 1 cent December 21 in Savannah.

Standard Oil Co. (Indiana) December 20 reduced tank-wagon gasoline 1.2 cents in Detroit; December 28, reduced tank-wagon kerosene 1.1 cents in Quincy.

Continental Oil Co. January 6 reduced dealer gasoline in Albuquerque 1.5 cents.

New York Market

(Continued from Preceding Page)

market appears sufficient to maintain the rates of 1938 for the present. Observers, however, anticipate that exports to Germany, Italy and possibly France will be curtailed to some extent before the middle of the year in view of barter deals with Mexico and recently concluded trade agreements with Rumania.

Harry Craft, center fielder of the Cincinnati Reds, has hooked up for the winter with the sales department of the Lily Oil Co., Hamilton, Ohio, of which Robert J. Karsh is the head.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 10, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.03¼	.03½
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04½
60-62 400 grades:		
62 octane and below	.03¼	.03½
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04½
64-66 375	.04	.04⅛
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03¾	.03½
63-66 octane	.03⅞	.04
67-69 octane	.04⅛	.04¼
70-72 octane (regular)	.04⅜	.04⅝
60-62 400	.03⅜	.03⅝
64-66 375	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La delivery)—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04½	.04¾
70-72 octane (regular)	.04⅞	.05⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04
67-69 octane	.05	.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.03½	.03¾
63-66 octane	.03⅞	.04⅛
67-69 octane	.04⅛	.04⅜
70-72 octane	.04⅜	.04⅝
60-62 400 grades:		
60-62 400 grades:		
62 octane and below	.03½	.03¾
63-66 octane	.03⅞	.04⅛
67-69 octane	.04⅛	.04⅜
70-72 octane	.04⅜	.04⅝
64-66 375	.04	.04¼
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04¼	.04⅜
65 octane		.06¼
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.08
58-60 400, 65 oct. and higher	.07½	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Boston	.06¼	.06½
Baltimore	.06	.06¼
Charleston, S. C.	.06¾	.07
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane		.04¼
60-64.9	.04½	.04⅝
65 octane and higher		.04⅝
68-70		.05

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03½
Grade 18-55	.04⅛	.04¼

NORTH TEXAS—

Grade 26-70		.03¼
Grade 18-55	.03¾	.03⅞

CALIFORNIA—

75-85 375-390	.06¼	.06¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03¾	.03⅞
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.04	.04¼
46-48 gr., 210-230 i.b.p., 480 max., e.p.	.04⅜	.04⅝

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04
42-44	.04⅛	.04¼

NORTH TEXAS—

41-43	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04	.04⅜

ARKANSAS (Ark. and N. La. del.)—

41-43		.04½

PENNSYLVANIA (inland refineries)—

45	.04⅝	.04⅞
46	.04¾	.05
47	.04⅞	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅞	.04⅛
42-44	.04⅛	.04⅜

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43	.03⅞	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-42	.03⅝	.03¾
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅜	.03½
No. 2 dark, 32-36	.03¼	.03⅜
No. 3 zero to 15, 28-32	.03⅛	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03⅜	.03⅝

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03¾	.04
No. 1 prime white, 38-40	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03¾
No. 2 straw, 32-36	.03⅜	.03⅝
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03⅛	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low pourpoint, 24-28	1.00	1.10
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.03¾	.04⅛

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.35
24 plus Diesel, per bbl.	1.00	1.30
24 plus Diesel (bunkers)	1.15	1.50
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.60	.80
12-17 (tankcars)	.50	.80
10-17 (high sulfur)	.45	.70
San Joaquin Valley:		
10-18 (tankcars)	.50	.80
24 plus Diesel, per bbl.	1.15	1.40
San Francisco:		
24 plus Diesel, per bbl.	1.40	1.45
24 plus Diesel (bunkers)	1.45	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel		.03¼
43-47 Diesel		.03¼
48-52 Diesel	.03½	.03⅝
53-57 Diesel	.03⅝	.03¾
Bunker C (bulk cargoes)		.70
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 Diesel (lighterage 6¼c per bbl.)		1.75
28-30 Diesel (tankcars)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. Harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.17	.17½
15 pourpoint	.16	.16½
20 pourpoint	.15	.15½
25 pourpoint	.14	.14½
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 pourpoint:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08½	.08¾
750-3½	.08⅝	.09½
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¾	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¾	.11½
600-5-6½	.09¾	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pourpoint	.16	.16½
10 pourpoint	.15	.15½
15 pourpoint	.14	.14½
25 pourpoint	.13	.13½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.18	.18½
10 pourpoint	.17	.17½
15 pourpoint	.16	.16½
25 pourpoint	.15	.15½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.0235	.0250

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0245
124-126 (a.m.p.) w.c. scale	.0235	.0245

NEW YORK—

Wax in bags fully refined:	
122-125 (a.m.p.) wax	.0375
125-127 (a.m.p.) wax	.0390
128-130 (a.m.p.) wax	.0400
130-132 (a.m.p.) wax	.0435
133-135 (a.m.p.) wax	.0465
135-137 (a.m.p.) wax	.0490
124-126 (a.m.p.) w.s.	.0230
124-126 (a.m.p.) y.s.	.0230
Petrolatum in barrels, carload lots:	
Dark green	.02 .02⅛
Amber	.02⅜ .02½
Extra amber	.02⅝ .02¾
Lily white	.05½ .05¼
Snow white	.06½ .06¼
Cream	.04¼ .04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¾	.04½
60-62 400	.04⅝	.04½
61-63 390	.04½	.04⅝
64-66 375	.04½	.04⅝

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white	.03⅞	.04
41-43 water white	.03⅞	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0455
Crude scale:		
124-126 w.s.	.0235	.0245
124-126 y.s.	.0235	.0245

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Van, Tex. (Oct. 11 1938)* ..... .93
Talco, Tex. (Oct. 11, 1938)* ..... .55
Rodessa, Tex. .....
See North Louisiana gravity schedule
Cass and Panola counties, Texas .....
.....See gravity schedule
Altus and Tipton† .....See note below
Cayuga, Tex. (Oct. 12) ..... .81
Clay Creek, Tex. ..... .85

*Humble Oil & Refining Co. †Gulf Refining Co.

Altus and Tipton, Okla., starting at below 25 degrees at 71 cents, 2-cent spread to 40 degrees and above at $1.03. East Texas price met by all buyers posting prices. Talco price adopted by Talco Pipe Line on October 11. Cayuga posted by Tide Water Associated Oil Co. Clay Creek posted by Sun Oil Co.

Gulf Coast

Conroe, Tex. (Oct. 11, 1938)* $1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† .....See note below
Gibson, La. (Oct. 11, 1938)† 1.04
Garden Island, La. (Oct. 12, 1938)‡ .. 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Hardin, Tex. (Oct. 12, 1938)¶ 1.02
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Oct. 11, 1938)§ .....
.....See note below
Bosco, La. (Oct. 13, 1938)¶ 1.02
Creole, La. (Oct. 12, 1938)¶ ..... .96
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)¶ ....See note below
Vinton, Edgerly, Starks, Hackberry, Timballier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 13, 1938)** .....
Long Lake, Tex. (Oct. 13, 1938)** 1.08
Segno and Wing (Oct. 13, 1938)** .....
.....See note below
Livingston (Oct. 11, 1938)† 1.10
Gibson, La. (Oct. 11, 1938)† 1.04

*Humble Oil & Refining Co. †Shell Petroleum Corp. ‡Texas Co. §Continental Oil Co. ¶Magnolia Petroleum Co. ‖Pure Oil Co. **Gulf Refining Co.

Black Bayou, etc., starts at below 20 degrees at 79 cents; 20-20.9, 81 cents; 21-21.9, 83 cents, then a 3-cent spread to 26-26.9 degrees, 98 cents, and 27 degrees and over $1. Abbeville starts at below 36 degrees, $1.01, 2-cent spread to 40 degrees and over at $1.11. Gueydan, etc., starts at below 20 degrees, 79 cents, 3-cent spread to 26-26.9 degrees at $1, and 2-cent spread to 40 degrees and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18 gravity, 76 cents, 2-cent spread to 20-20.9 at 82 cents; then a 3-cent spread to 26-26.9 at $1; then a 2-cent spread to 34 degrees and over at $1.16.

Southwest Texas

Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* ..... $ .96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Darst Creek (Oct. 12, 1938)† ..... .96
Darst Creek and Bruner (Oct. 13, 1938)‡ ..... .96
Luling (Oct. 12, 1938)† ..... .87
Lytton Springs (Oct. 12, 1938)† ..... .99
Mirando (Oct. 12, 1938)† .....
Government Wells (Oct. 13, 1938) .....See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20 gravity, 77 cents, 3-cent spread to 24-24.9 at 89 cents.

North Louisiana and Arkansas

Smackover, Ark. (Oct. 5, 1938)* ... $ .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)* ....See note below
Schuler, Jones sand .....See note below
Tullos and Urania ..... .89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Lisbon, La. (Sept. 19, 1938) .....
.....See note below

*Smackover posted by Standard Oil Co. of Louisiana, October 5, 1938; by Magnolia Petroleum Co., October 12; by Gulf Refining Co., October 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25 degrees, 66 cents, with 2-cent spread to 40 and over at 98 cents; by Lion Oil Refining Co. on October 5, 1938; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolie; by Lion Oil Refining Co., October 5; Buckner, Magnolia, and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. on October 5; quote same prices as for Schuler Jones sand crude.

Middle Western States

OHIO OIL CO.
(Effective October 13, 1938)

Lima, Ohio ..... $ .90
Illinois old fields 1.05
Illinois basin 1.15
Princeton, Ind. 1.05
Western Kentucky 1.10
Greendale, Porter, and Crystal, Mich. (Jan. 6, 1939)* ..... .92½
Buckeye, Bentley, Edenville, Beaverton, Mich. (Jan. 6, 1939)* ..... .90
Freeman-Redding, Mich, (Jan. 6, 1939)* ..... .82
West Branch and Arenac, Mich. (Dec. 13, 1938)* ..... .70
Muskegon 1.00
Sherman, Mich. (Dec. 13, 1938)‡ ... .82
Eastern Kentucky:
Big Sandy River† 1.12
Kentucky River† 1.20

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)* .. $ .92
Elk Basin, Wyo. (Oct. 11, 1938)*† .. .90
Grass Creek, light, Wyo. (Oct. 11, 1938)*† ..... .90
Grass Creek, heavy (Oct. 11, 1938)† .40
Lance Creek, Wyo. (Oct. 11, 1938)* .77
Rock Creek, Wyo. (Oct. 11, 1938)* .. 1.00
Iles, light, Colo. (Oct. 11, 1938)† .... .98
Iles, heavy, Colo. (Oct. 11, 1938)† ... .92
Dutton Creek, Wyo. (Oct. 11, 1938)† .....See note below
Frannie, light, Wyo. (Oct. 11, 1938)† .55
Frannie, heavy, Wyo. (Oct. 11, 1938)† ..... .42
Hamilton dome, Wyo. (Oct. 11, 1938)† ..... .35
Midway, Wyo. (Oct. 11, 1938)† .....
.....See note below
Salt Creek Tensleep crude, Wyo. (Oct. 11, 1938)† ..... .646
Salt Creek (Oct. 11, 1938) .See note below
Canon City, Colo. (Oct. 11, 1938)‡.. .90
Florence, Colo. (Oct. 11, 1938)‡ ... .90
Cat Creek, Mont. (Oct. 11, 1938)‡ .. 1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡ .. .98
Lance Creek, Wyo. (Oct. 11, 1938)‡.. .77
Lea County, N. M. .....
See West Texas gravity schedule‡
Artesia, Jackson and Maljamar .....
.....See gravity table‡
Fort Collins and Wellington, Colo. .....
.....See gravity table‡
Eddy County, N. M. (October 11, 1938)¶ ..... .77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. ¶Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crude start at below 29 degrees, 86 cents, 2 cents spread to 40 and over at $1.10. Salt Creek crude excepting Tensleep, takes Standard Oil Co. of Indiana Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective October 11, discontinued posting prices in Greybull-Torchlight, Wyo., and Hogback and Hospah, N. M.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective September 1, 1938)

Bradford, Pa. $1.68
Allegany, N. Y. 1.68

SOUTH PENN OIL CO.
(Effective September 1, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field) ... $1.68
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.34
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.26
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.18
Corning Grade Oil in Buckeye Pipe Line Co. line (Oct. 18, 1938) .... .97

PENNZOIL CO.

Group A $1.61
Group B 1.60
Group C 1.50
Group D 1.58
Group E 1.56

PURE OIL CO.
(Effective September 1, 1938)

West Virginia $1.28

West Texas

See gravity table.
Pecos County (Oct. 11, 1938)* ..... $ .78
Pecos shallow (Oct. 11, 1938)† ..... .65

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Canada

Ontario (Oct. 25, 1938)*

Petrolia $1.90
Oil Springs 1.97

TURNER VALLEY
(January 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65 gravity and higher $2.14
Discolored naphtha and crude oil, 40-40.9 gravity 1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity 1.62
These prices f.o.b. producers field tankage.

*Imperial Oil, Ltd.

Crude Oil Price Changes

Effective January 6, Simrall Corp. of Mount Pleasant, Mich., restored the prices it had been paying up to December 19 in several fields of the state. For Greendale, Porter and Crystal crude it posted 92½ cents, a 14-cent increase; for Buckeye, Bentley, Edenville and Beaverton, 90 cents, a 14-cent increase and for Freeman and Redding crude, 82 cents, a 14-cent increase. West Branch and Arenac crude remain unchanged at 70 cents.

Rocky Mountain Runs

Production estimates for week ended January 7, 1939:

WYOMING

	Barrels
Salt Creek	15,220
Big Muddy	1,200
Elk Basin	570
Frannie	1,780
Garland	1,630
Grass Creek	1,860
LaBarge	1,050
Lance Creek	12,640
Lost Soldier	1,980
Medicine Bow	2,290
Oregon Basin	2,200
Osage	800
Quealy Dome	640
Rock River	2,170
Poison Spider	250
Wertz	1,280
Miscellaneous	1,460
Total Wyoming	49,020

MONTANA

Border	40
Cat Creek	550
Cut Bank	7,380
Dry Creek	370
Kevin-Sunburst	3,460
Lake Basin	10
Pondera	1,640
Total Montana	13,450

NEW MEXICO

Cooper	4,350
Eaves	830
Eunice	22,460
Hardy	2,720
Hobbs	11,860
Jal	910
Langlie	4,430
Lynch	500
Lynn	790
Mattix	3,120
Monument	22,800
North Lynch	40
Penrose	5,490
Rhoades	150
Skelly	1,820
South Eunice	2,960
Vacuum	5,840
Empire State	100
Artesia-Maljamar	5,970
Getty	100
Hogback	200
Rattlesnake	640
Table Mesa	80
Total New Mexico	98,160

COLORADO

Total Colorado	4,040
Total Rocky Mountain region	164,670

Crude Prices by Gravities

	1 Oklahoma	2 Oklahoma and Kansas	3 North and Central Texas	4 Louisiana and Arkansas	5 East Central Texas	6 Gray County, Texas	7 Hutchinson and Carson counties, Texas	8 Raccoon Bend, Satsuma and Tomball, Texas	9 West Texas and Lea County, N. M.	10 Fort Collins and Wellington, Colo.	11 Anahuac and Dickinson, Texas	12 Refugio, Texas	13 Mirando and Duval Texas	14 Gulf Coast Texas	15 Cass and Panola counties, Texas	16 Beaumont and West Beaumont, Texas	17 Lockport, Iowa, Cameron Meadows, Louisiana	18 Artesia, Jackson, and Maljamar, N. M.	19 Iowa, Louisiana
Below 18	....	....	....	....	....	....	....	....	$.53	....	$.74	$.79	$.74	$.79	....	....	$.74	....	$.75
18-18.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.74	.79	....	....	.76	....	.77
19-19.9	....	....	....	....	....	....	....	....	.53	....	.74	.79	.74	.79	....	$.79	.78	....	.79
20-20.9	$.60	$.70	....	....	....	....	....	....	.55	....	.77	.82	.77	.82	....	.82	.80	....	.81
21-21.9	.63	.72	....	....	....	....	....	....	.57	....	.80	.85	.80	.85	....	.85	.82	....	.83
22-22.9	.66	.74	....	....	....	....	....	$.95	.59	....	.83	.88	.83	.88	....	.88	.85	....	.86
23-23.9	.69	.76	....	....	$.78	....	....	.97	.61	....	.86	.91	.86	.91	....	.91	.88	....	.89
24-24.9	.72	.78	$.71	....	.80	....	....	.99	.63	....	.89	.94	.89	.94	....	.94	.91	....	.92
Below 25	....	....	....	$.73	....	....	....	....	....	....	....	....	....	....	$.73	....	....	....	....
25-25.9	.75	.80	.73	.75	.82	....	....	1.01	.65	....	.92	.97	.92	.97	.75	.97	.94	....	.95
26-26.9	.78	.82	.75	.77	.84	....	....	1.03	.67	....	.97	1.00	.95	1.00	.77	1.00	.97	....	.98
27-27.9	.81	.84	.77	.79	.86	....	....	1.05	.69	....	.97	1.02	.97	1.02	.79	1.02	.99	....	1.00
28-28.9	.84	.86	.79	.81	.88	$.72	$.67	1.07	.71	$.81	.99	1.04	.99	1.04	.81	1.04	1.01	$.61	1.02
29-29.9	.87	.88	.81	.83	.90	.74	.69	1.09	.73	.83	1.01	1.06	1.01	1.06	.83	1.06	1.03	.63	1.04
Below 30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
30-30.9	.90	.90	.83	.85	.92	.76	.71	1.11	.75	.85	1.03	1.08	1.03	1.08	.85	1.08	1.05	.65	1.06
31-31.9	.92	.92	.85	.87	.94	.78	.73	1.13	.77	.87	1.05	1.10	1.05	1.10	.87	1.10	1.07	.67	1.08
32-32.9	.94	.94	.87	.89	.96	.80	.75	1.15	.79	.89	1.07	1.12	1.07	1.12	.89	1.12	1.09	.69	1.10
33-33.9	.96	.96	.89	.91	.98	.82	.77	1.17	.81	.91	1.09	1.14	1.09	1.14	.91	1.14	1.11	.71	1.12
34-34.9	.98	.98	.91	.93	1.00	.84	.79	1.19	.83	.93	1.11	1.16	1.11	1.16	.93	1.16	1.13	.73	1.14
Below 35	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.00	1.00	.93	.95	1.02	.86	.81	1.21	.85	.95	1.13	1.18	1.13	1.18	.95	1.18	....	.75	....
36-36.9	1.02	1.02	.95	.97	1.04	.88	.83	1.23	.87	.97	1.15	1.20	1.15	1.20	.97	1.20	....	.77	....
37-37.9	1.04	1.04	.97	.99	1.06	.90	.85	1.25	.89	.99	1.17	1.22	1.17	1.22	.99	1.22	....	.79	....
38-38.9	1.06	1.06	.99	1.01	1.08	.92	.87	1.27	.91	1.01	1.19	1.24	1.19	1.24	1.01	1.24	....	.81	....
39-39.9	1.08	1.08	1.01	1.03	1.10	.94	.89	1.29	.93	1.03	1.21	1.26	1.21	1.26	1.03	1.26	....	.83	....
40 and over	1.10	1.10	1.03	1.05	1.12	.96	.91	1.31	.95	1.05	1.23	1.28	1.23	1.28	1.05	1.28	....	.85	....

Effective December 3, 1938, Humble Oil & Refining Co. revised its October price schedules as shown in Columns 3, 6, 7, 8, 11, 12, and 13. The only changes made were the discontinuance of prices on crude of 41, 42, 43, 44, and 45 degrees and over. Humble's new schedule stops at 40 degrees and over. Companies that met Humble's schedule of October 11, have conformed to the revised price schedule, stopping at 40 degrees and over.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Jan. 7 High	Week ending Jan. 7 Low	Week ending Jan. 7 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1937 High	1937 Low	1936 High	1936 Low
78	55	69½	68¼	68¼	Amerada Corp.	788,675	N.P.	50cQ	10-31-38	$2.00	$3.04	$2.52	114⅞	51½	125½	75
27⅝	17¾	23¼	22⅝	23	Atlantic Refining	2,663,999	$25	25cQ	12-15-38	1.00	3.51	2.59	37	18	35⅛	26⅝
23¾	12⅛	21½	20	20¾	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	1.91	1.14	43⅜	10⅛	38½	21
21⅜	10⅛	20¼	18⅝	18⅝	Barnsdall Oil Co.	2,250,344	$5	25cQ	2-1-39	1.00	0.85	1.01	35¼	10	28¼	14⅛
10¾	7	9¼	8⅞	9⅛	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	2-15-39	.80	1.48	1.18	17⅞	7	17¼	11½
35⅜	21¼	31½	29⅝	29⅝	Continental Oil of Delaware	4,682,583	$5	25cQ	12-20-38	‖1.00	2.98	2.05	49	24	44⅞	28⅛
9¾	5	8⅜	7⅞	7⅞	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	0.94	—0.03	17⅝	4¾	13⅞	6⅝
22⅝	12¼	16½	16	16¼	Mid-Continent Petroleum	1,857,912	$10	35c	12-1-38	.60	2.86	2.57	35⅝	14	30⅞	17¼
17⅜	10⅝	14⅞	14½	14⅝	Mission Corporation	1,382,945	$10	$1	6-29-38	1.00	1.31	0.48	34	15	29⅞	16¾
23	12½	15½	14¾	14¾	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	....	4.90	2.02	41⅜	17⅝	75½	19⅞
14⅞	8⅞	10¼	9⅝	9⅞	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	1.30	0.70	22⅞	8	18	12⅛
15⅞	10¼	11⅞	11⅝	11⅞	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.39	1.58	29¾	11¾	23½	11¾
9¼	6¼	6½	6½	6½	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	1.18	0.52	17⅛	7	20⅝	12¼
44⅝	27¼	43¾	41⅞	41⅞	Phillips Petroleum	4,449,052	N.P.	50cQ	12-1-38	‖2.00	5.42	4.02	64	30⅛	52⅝	33⅛
25⅜	15	22½	21⅞	22½	Plymouth Oil Co.	1,029,800	$5	35cQ	12-12-38	1.40	2.85	1.65	29⅞	13	27⅞	11⅞
13½	8¼	11¼	10⅝	10½	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	....	2.15	1.63	24⅜	8¾	27⅞	16
10¼	5	10¼	7⅞	10	Richfield Oil Corp.	3,896,638	N.P.	50c	12-21-38	.50	0.35	...	6½	4⅛	..	..
27½	15½	22⅝	21⅜	22	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	12-15-38	1.00	1.97	2.00	54⅛	16	44	30½
18⅝	10	15⅛	14½	14½	Shell Union Oil	13,070,625	N.P.	35c	12-20-38	.70	1.44	1.57	34⅜	14⅞	28¼	14⅜
34⅜	18½	29½	28	28	Skelly Oil	1,003,949	$15	50c	12-15-38	1.00	6.07	4.42	60⅝	26½	47⅝	19½
16⅝	10⅜	13⅜	13¼	13¼	Socony-Vacuum	31,151,071	$15	25c	9-15-38	.50	1.82	1.38	23¼	13	17½	12½
34⅞	25⅛	28⅞	28	28½	Standard Oil of California	13,014,754	N.P.	35cQ†	12-15-38	1.40	3.17	1.79	50	27⅛	47⅝	35
35½	24¾	29⅛	28¼	28⅝	Standard Oil (Indiana)	15,267,030	$25	25cQ	12-15-38	1.00	3.66	3.09	50	26½	48½	32¾
50⅛	32½	..	..	..	Standard Oil of Kansas	112,837	$10	$2	12-8-38	2.00	6.93	1.91	43	30⅝	31	25
58⅝	39⅝	53¼	51	51¼	Standard Oil of New Jersey	26,224,767	$25	50c§	12-15-38	§1.50	5.64	3.73	76	42	70⅜	51⅛
66	45	66	64¼	64¼	Sun Oil	2,316,484	N.P.	25cQ	12-15-38	1.00	3.86	3.25	77½	44½	91	70
4¼	1⅜	3¼	3	3⅛	Superior Oil Corp.	1,388,079	$1	....	.....	....	0.32	0.14	7⅝	1½	6⅜	3
49⅝	32⅝	48¼	46	46	Texas Corp.	10,875,006	$25	50cQ	1-5-39	2.00	5.02	4.10	65⅛	34⅜	55¼	28⅞
5⅞	2⅝	5⅜	5½	5½	Texas Gulf Producing Co.	888,140	N.P.	15c	12-15-38	.15	0.68	0.93	9⅝	2	8⅞	4⅝
12½	7	10½	9⅝	10	Texas Pacific Coal & Oil	888,140	$10	10c	12-1-38	.40	1.11	0.72	16⅝	5⅜	15¼	7½
15¾	10⅛	14⅛	13½	13⅝	Tide Water Associated	6,369,175	$10	25cQ	12-1-38	1.00	2.08	1.03	21⅝	13⅛	21¾	14¾
22½	17⅛	19¾	18⅝	19	Union Oil of California	4,666,270	$25	30cQ	11-10-38	1.20	2.58	1.40	28¼	17½	28½	20⅝
23⅝	20	23⅝	22⅝	22¾	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-38	1.30	1.70	1.76	31½	22	31⅝	22⅝
3½	1⅝	3⅛	3	3⅛	Wilcox Oil & Gas	506,522	$5	....	5-10-28	....	0.24	—0.06	6¼	1⅜	5¼	2¾

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1½ per cent stock dividend. ‖Also right to subscribe to bonds.

New York Curb Exchange

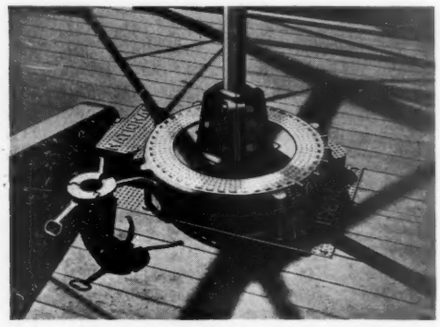
1938 High	1938 Low	Week ending Jan. 7 High	Week ending Jan. 7 Low	Week ending Jan. 7 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1937	Com. sh. earn. 1936	1937 High	1937 Low	1936 High	1936 Low
11¾	5	9	8⅞	9	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	$0.27	$0.28	10	6⅝	..	..
10¼	4⅞	7¼	6¾	7	Bridgeport Machine Co.	260,000	N.P.	$1.25	12-30-37	....	1.90	1.26	21⅝	7	21	13¼
39	22½	29	27¾	28	Buckeye Pipe Line Co.	200,000	$50	50c	12-15-38	2.00	4.02	4.40	51½	36	50	39¾
128	97	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$2Q†	12-19-38	6.50	6.73	7.46	12	95½	124¾	105
11	5⅛	8½	7¼	8¼	Cities Service (new)	3,714,317	$10	....	6-1-32	....	1.02	0.13	5⅜	1½	7⅜	3
2⅜	⅞	1⅛	1	1⅛	Cosden Petroleum	462,551	$1	....	.....	....	0.19	...	5½	1½	4½	1½
27½	17½	23¾	23	23¼	Creole Petroleum	6,975,383	$5	50cSA†	12-15-38	1.00	1.61	1.23	38¾	20¼	39	19⅞
10¼	5½	7⅛	7	7	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	1.36	1.26	18⅝	6½	18⅛	9
3½	1½	2	2	2	Derby Oil & Refining	263,162	N.P.	....	.....	....	1.34	0.66	8⅜	2¼	6⅜	1⅞
31	16	20	20	20	Eureka Pipe Line	50,000	$50	50c	2-1-39	3.00	—0.12	—0.62	47½	24½	47½	38½
46⅞	33	40	39½	39½	Gulf Oil Corp.	9,076,202	$25	25cQ	12-15-38	1.00	3.51	2.90	63½	33	59	36
72⅝	56	69⅜	67½	67½	Humble Oil & Refining	8,987,840	N.P.	62½c	12-27-38	3.00	5.22	3.80	87	54⅞	80	57
19½	14⅛	16⅝	16¼	16½	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	12-1-38	1.25	0.98	0.95	24¼	14½	24½	19¾
9⅜	6	7	6½	7	Indiana Pipe Line	300,000	$10	20c	11-15-38	.50	1.03	1.00	15	5⅞	9⅜	5½
31¼	21	27½	26½	26⅞	International Petroleum	14,324,088	N.P.	$1.25†‡	12-1-38	2.50	...	1.81	39½	23½	39⅝	32⅝
5	2⅛	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	0.17	0.20	8¾	2⅜	5¾	2⅝
25⅛	15⅝	20¼	20	20	Lion Oil Refining	434,820	N.P.	25cQ	12-15-38	1.00	2.17	1.43	34	12½	17⅞	7⅞
10⅜	6⅝	9	9	9	Lone Star Gas	5,553,747	N.P.	20c	12-22-38	.60	1.14	1.02	14¼	5¼	14¼	9⅞
9⅞	6½	7⅞	7⅞	7½	Louisiana Land & Exp.	2,977,449	N.P.	5c spl.	12-23-38	.45	0.58	0.64	15¼	6⅝	15⅝	9⅞
9¾	6⅜	8⅜	8¼	8⅜	Midwest Oil Co.	998,444	$10	50c	12-15-38	1.00	1.14	0.95	14⅝	6¼	..	..
5¾	4½	5	4⅞	5	Mountain Producers	1,593,584	$10	30cSA	12-15-38	.60	0.76	0.62	7⅞	4⅛	8⅝	5
14⅝	11½	12⅞	12	12⅝	National Fuel Gas	3,810,183	N.P.	25cQ	1-16-39	1.00	0.96	1.19	19½	12	23	17⅜
9¼	6½	7½	7¼	7½	National Transit	509,000	$12.50	40c	12-15-38	.75	1.19	0.79	12½	7¼	15⅜	9¼
2⅝	1½	1⅝	1½	1⅝	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	0.02	0.02	5	1⅛	6⅝	1⅝
4½	3½	..	..	..	New York Transit	100,000	$5	15c	10-15-38	.25	0.49	0.34	5⅜	3⅞	6¼	4¼
6	4	5½	5	5½	Northern Pipe Line	120,000	$10	15c	12-1-38	.35	0.78	0.66	12⅜	5⅜	9⅜	4⅞
7⅝	3½	7⅝	6⅞	7	Pantepec Oil	2,441,142	$1	....	.....	....	...	0.05	9⅝	2⅜	10½	3¼
4½	1⅝	2⅜	2¼	2¼	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	—0.17	0.45	12¾	2	19¼	4½
4	2⅛	3	3	3	Ryan Consolidated	296,931	N.P.	....	.....	....	0.46	...	6½	2¼	4⅜	1⅞
5⅜	3¼	..	..	..	Southern Pipe Line	100,000	$10	15cSA	9-1-38	.30	0.85	0.41	7¼	3⅞	7⅞	3¼
39	28¾	33	32¾	32¾	South Penn Oil	1,000,000	$25	37½cQ	12-24-38	1.75	4.64	3.59	56	35	44	32½
22¼	16½	18½	18½	18½	Southwest Penna. Pipe Lines	35,000	$50	50cQ	12-28-38	2.00	0.95	0.97	42	20	60	44
18¾	15	17¾	17½	17⅝	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-38	1.25	1.60	1.46	21⅛	14¾	23⅜	17⅛
8¾	5½	..	..	..	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	....	—0.58	0.42	13¾	8	14⅝	11
22¾	16¼	20½	19⅞	20½	Standard Oil of Ohio	753,740	$25	25c	12-15-38	1.00	3.67	4.77	45	16	40	21¾
3¼	2	2⅝	2¼	2¼	Sunray Oil	2,006,176	$1	10c	12-24-37	.05	0.42	0.26	4⅜	2	5	2⅝
5¼	3½	4	3½	3⅝	Texon Oil & Land	936,024	$2	15cQ	9-30-38	.60	0.51	0.36	7⅝	2	9¾	5⅜
7⅝	4¼	5½	5⅛	5⅜	Transwestern Oil Co.	750,000	$10	....	.....	....	0.48	0.06	13⅞	4⅝	..	..
5¼	2⅝	3⅜	3	3	United Gas Corp.	7,818,959	$1	....	.....	....	0.25	0.20	13⅞	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Affords Direct Drive Between Gear-Table and Drillstem

A new type of drillstem drive attachment has been recently developed by the National Supply Co. When driving the drillstem, the Type B Ideal



drillstem attachment (patented) provides a direct drive between the gear-table and the stem, without driving through the table bushing. This design gives a greater driving area between the table and the drillstem bushing, with a corresponding decrease in wear on the bushing's driven faces. The driving faces of the drillstem bushing are extra long—approximately 20 inches—to decrease wear on both the bushing and the drillstem.

The Type B split table bushing used in conjunction with the drillstem bushing is designed with a bowl considerably deeper than the usual slip bowl to provide ample backing for extra-long drillpipe slips. Several types of drillstem bushings are available to suit the various operators' requirements. The Type B drillstem bushing is made of manganese steel and is for use with regular square drillstems. The Type BL bushing is of carbon steel with hardened steel liners for driving the drillstem. The use of these renewable liners makes the bushing particularly adaptable for use with either the regular square drillstem or the octagonal drillstem.

With this attachment the National Supply Co. offers the Types SK and BK improved drillpipe slips of three-piece hinged construction. The SK slips are for use with average lengths of drillpipe and the BK slips are for use with extra-long strings of pipe.

Bulletins, Booklets and Other Literature for the Trade

The current number of Oxy-Acetylene Tips, published by the Linde Air Products Co., offers a well-written article on "Longer Life for Steel-Producing and Fabricating Equipment."

"Oil Activity Boosts Valve Needs" is the title of a timely article in the latest issue of Valve Values, monthly publication of the Edward Valve & Manufacturing Co., East Chicago, Ind.

A bulletin prepared by Wright Austin, 315 West Woodbridge Street, Detroit, Mich., presents advantages of the "Plainsite" inclined water-gauge.

"Z Nickle" alloy, a new noncorrosive high nickel alloy, is described in a bulletin obtainable from Jon R. Long, Box 414, Fort Worth, Tex.

The twenty-fifth anniversary of the Mid-Continent Petroleum Corp., Tulsa, is commemorated by a special number of its house organ, the Diamond. The story of the company and illustrated articles on the various departments are presented entertainingly.

Lightnin portable mixers are described and pictured in an eight-page bulletin being distributed by Mising Equipment Co., Inc., 1087 Garson Avenue, Rochester, N. Y.

A 60-page booklet, available from the Chaplin-Fulton Manufacturing Co., 28-40 Penn Avenue, Pittsburgh, Pa., is devoted to the Vigilant feedwater regulator and other steam specialties.

Filtrol Corp., 315 West Fifth Street, Los Angeles, Calif., is sending on request a revised edition of its booklet on "Filtrol Products and Their Commercial Uses."

The fourth-quarter number of the Lufkin Line, published by Lufkin Foundry & Machine Co., Lufkin, Tex., preserves the high standard which has marked that publication. It offers also information about the Lufkin "Natural," a pumping unit for shallow production.

"Proper Performance of Pump Parts" and "Alloy Meets Refinery Requirements" are among interesting articles in the current number of Nickel Steel Topics, published by the International Nickel Co., 67 Wall Street, New York.

Emsco Derrick & Equipment Co., 6701 South Alameda Street, Los Angeles, Calif., is sending to those who ask for it a bulletin describing Emsco Types AB-6 and AB-4 swivels for medium and light drilling.

An engineered toolhouse, designed and built for long service, convenience, and cleanliness, is described and illustrated in a bulletin sent on application by Allied Steel Products Corp., 1407 North Peoria Avenue, Tulsa.

Fisher-King gas pressure boosters for low-, intermediate-, and high-pressure gas distribution systems are described in a 24-page catalog prepared by Fisher Governor Co., Marshalltown, Iowa.

Cummins Advances Dave Buttles

Dave Buttles, of Seattle, Wash., has been promoted to national sales manager of Cummins Engine Co., Columbus, Ind. His headquarters will be at the home office.

For the past four years, Mr. Buttles has been the factory sales and service manager in 11 western states. He has been largely responsible for building the present position of Cummins Diesels in the marine field in the Pacific Northwest. His field trips have taken him from Alaska to Hawaii, and among the larger contractors, loggers, and truck fleet owners from Los Angeles to Vancouver, Mr. Buttles is known as "Dave." He is credited with knowing the Cummins engine from top to bottom and being thoroughly familiar with sales and service problems.

'Boar-r-r-d! Buycycle's All Set to Go, Business Analyst Says

The American Chain & Cable Co. is feeling pretty good about the outlook. "The Buycycle is here," it says. "It looks as if we'll be able to

1939 WILL BE A *BUY*CYCLE YEAR!

travel fast on it during 1939." Warming up to the subject, it goes on:

"Industry is looking up. The buying interest in heavy goods has awakened. Shortages of many kinds of equipment are so keenly felt that a large number of buyers are actually forced into the market. Railroads and communication utilities, with the industries that supply them, are contemplating greater activity. The attitude of the average business man is decidedly more optimistic. And so the stage seems set for a year of good industrial selling.

"No salesman can reap the rewards in store during 1939 unless he gets aboard the Buycycle and works it for all it's worth. That means he must put in all the sales effort he can command. Supported by a quality product that is well advertised, the go-getter who really works will really go places. A well-known American Chain & Cable Co. official puts it like this:

"'I believe the Buycycle is here, and our 1939 advertising will add strong propelling power. We will never use the brakes, but will continue to push down hard on the pedals all the time. In fact, we will not do any coasting, even after reaching the top of the hill.'

"Let's put everything we have into making the Buycycle as useful to us as possible. Let's get every possible bit of energy to the pedals. Let's travel straight along the roads to our objectives. Then we'll get the rewards the future is holding out to us."

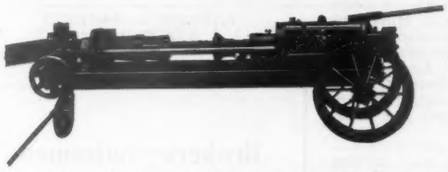
Victaulic Coupling Men to Travel

In a recent reorganization of the Victaulic Co. M. C. Hutchinson was appointed vice president and general manager, and A. G. Baldwin, vice president in charge of sales. Both Mr. Hutchinson, an Annapolis graduate, and Mr. Baldwin, a graduate of Cornell University, have had wide experience in the sale of Victaulic couplings. For the last six years Mr. Hutchinson has been manager of the Victaulic Co. of Canada. Mr. Baldwin has devoted his efforts largely to direct sales in the eastern section of the United States and to export trade.

The two men will start on extended trips, to cover most of the United States. Around the first of March they plan to meet in Houston, Tex., and cover the Mid-Continent together.

Rotary Hose Clamp Service Is Established in Oil Regions

The Elliott hydraulic clamp press, used in the rotary hose clamp service offered by Elliott Manufacturing Co., 5423 McKinley Avenue, Los Angeles, Calif., is designed especially to install Elliott hose clamps more tightly and efficiently, eliminating the necessity of retightening. Rapid-



ity of operation is one of the features emphasized by the company, which says installations have been made in 50 seconds. Powerful hydraulic pressure is provided, the machine having 50 tons capacity. Nipple and clamp are installed in one operation. Complete installations at one end are said to have been made in 90 seconds.

The service is being established at the principal distributing points for rotary hose in the United States and Canada. The hydraulic clamp press is furnished to all manufacturers of rotary hose using Elliott hose clamps. In addition to the larger service units hand-operated machines are to be placed in the principal oil fields to provide emergency service.

Homestead Offers New Line of Three-Way Lift-Plug Valves

A new line of three-way brass Easy-Turn lift-plug valves has been developed by Homestead Valve Manufacturing Co., Inc., Coraopolis, Pa., for use on air, water, oil, and gas services at working pressures up to 150 pounds and temperatures below 400 degrees F.

The valves are available in sizes from 1¼- to 3½-inch and with three different styles of port arrangement—Style D, which permits flow from either end and out the side opening, or vice versa; Style E, which permits flow from the left-hand end and out the side opening, or straight through; and Style F, which permits flow from the right-hand end and out the side opening, or straight through.

Direction of flow is changed by a quarter-turn of the operating lever. The powerful leverage and screw of the lift-plug feature not only assure easy operation, but permit the plug to be sealed in the body in either of its two extreme positions of travel or in a mid-position, so that all ports are closed.

C. E. Anderson in New Post

Recently appointed by the Franks Manufacturing Corp., as representative for Kansas, Colorado, Montana and Wyoming is Charles E. Anderson of Hutchinson, Kans. Mr. Anderson has had many years experience in selling oil servicing equipment and was formerly with the All-Steel Products Co.

Here and There With Men Who Manufacture Equipment

Foote Bros. Gear & Machine Corp. has appointed the following representatives for IXL gear products and speed-reducers: A. C. Andrews, 1613 Bryan Street, Dallas, in the northern half of Texas; W. M. Lee, 1409 California Avenue, Houston, Tex., direct factory representative and engineer in the Houston territory; Industrial Engineering Co., Professional Building, Charleston, factory representative in the southern part of West Virginia.

J. F. Mitchell-Roberts, export manager for Oliver United Filters, Inc. (New York, Chicago and San Francisco), has returned from a two-year trip around the world. He covered practically every country in which the company has business interests with the exception of those in Latin America, which he expects to visit later.

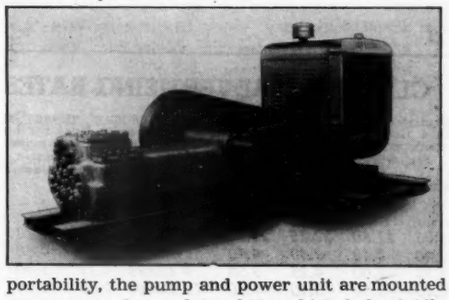
Victor E. Williams, manager of the New York sales branch of Monsanto Chemical Co., has been promoted to assistant general manager of sales. He will divide his time between New York and St. Louis. A. T. Loeffler, who was assistant manager of the New York branch, succeeds Mr. Williams. F. C. Renner, assistant general manager of sales in Boston, succeeds Mr. Loeffler.

Represents Jarecki in Houston

John F. Eaton will be in charge of the Jarecki Manufacturing Co.'s new Houston, Tex., office and store to be opened this month. The company manufactures and distributes a complete line of oil-field equipment. For the past two years Mr. Eaton has been with the American Steel Derrick Co. of Tulsa as mechanical and sales engineer. He went to Tulsa in 1932 and was sales engineer for Jarecki for five years until his connection with American Steel Derrick two years ago. Mr. Eaton is a graduate mechanical engineer of Princeton University, and is a member of the American Society of Mechanical Engineers, the Engineers Club of Tulsa, and is a registered professional engineer in Oklahoma.

Duplex Power Pump Provided With Superior Diesel Unit

The Novo Engine Co.'s new duplex power pump, Model OP, is now furnished with Superior Diesel power unit, Model 1A-2. This pump is driven through a quadruple V-belt drive. For easy



portability, the pump and power unit are mounted on separate, heavy-duty skids which bolt rigidly together when the pump is in service.

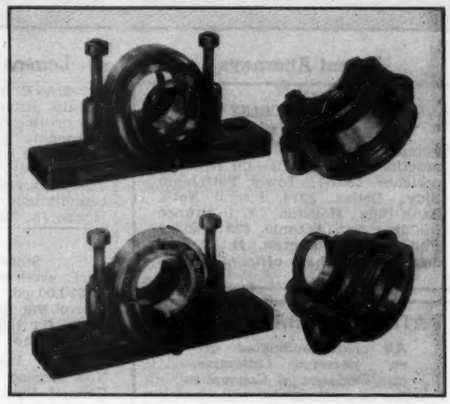
The power unit is mounted on steel channels equipped with screws for adjusting belt tension. The pump is furnished with electric motor, gasoline engine, or less power.

Pump-liners, valves, pistons, and piston-rods are interchangeable for handling water, slush, or oil. Roller bearings are used on main and pinion shafts. The pump is fully enclosed and flood-lubricated. It is built in four sizes with 2½-, 3-, 3½-, and 4-inch bore and a 6-inch stroke. Pressure ranges from 300 to 800 pounds.

Descriptive bulletin No. 109 is available from Novo Engine Co., Lansing, Mich., or at all stores of the National Supply Co., exclusive distributor for Novo equipment in the oil fields.

Triple Seal Protects Bearings Against Lubricant Leakage

A patented triple seal, which protects the bearing against lubricant leakage, dust, dirt, and mois-



ture, has been made available by S.K.F. Industries, Inc., Front Street and Erie Avenue, Philadelphia, Pa. The seal consists of two split piston-rings on each side of the housing and grooved on the outside diameter to form a labyrinth seal with the two end bores of the housing. Each ring has an inward tension that enables it to turn with the shaft.

On each side of the housing two rings are mounted on the shaft, with the splits 180 degrees apart, to prevent lubricant leakage through the splits. The inner ring serves as an internal flinger, and the outer ring keeps dirt and other foreign substance from entering the housing. These rings are not securely fastened to the shaft, making the seals free to locate themselves axially whenever shaft expansion occurs. Consequently, close clearances are maintained at all times between the rings and the housing.

Made of cast iron, the rings are hammered on the outside diameter in order to obtain the required inward tension to hold them properly on the shaft. If any lubricant should pass the first seal, it is returned into the housing through a hole located in the center groove of the bottom half of the housing. The lubricant is returned at a point below the oil level.

The triple seal is made for the complete range of standard shaft sizes, and is designed for split housings which are machined to allow axial freedom of the bearing.

Bonuses For Lane-Wells Workers

A bonus aggregating $50,000 was paid to approximately 450 employes of Lane-Wells Co., according to an announcement by Walter Wells, president. Bonuses ranged from a half-month's salary to one month's salary depending on length of service, and were paid to all employes who have been with the company for one year or longer.

Promotion For Hancock

William G. Hancock, long in the service of the McCord Radiator & Manufacturing Co., Detroit, Mich., has been promoted to the position of general sales manager of that organization, it is announced. In his new post Mr. Hancock will direct sales in all departments of the company. He has been associated with McCord for 20 years, and before his latest advancement, which became effective January 1, he was manager of sales in the automotive parts department.

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT LAWYER
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas. 2014 Second Nat'l. Bank Bldg., Houston. 707 Insurance Building, San Antonio. 433 Munsey Building, Washington, D. C. Address any of these offices.

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees—FREE
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

Legal Blanks

SINCE 1908 Burkhart's legal forms—serving Mid-Cont. & Illinois oil fields. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

SACRIFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

320 ACRES, Crane Co., Tex., Magnolia lease, cheap in fee. Address 415 Littlefield Building, Austin, Texas.

LEASES—ROYALTIES near Ordovician and Woodbine-Trinity sand wildcats. Quick plays for 50 to 1 chances. E. CROFT, PROCTOR, TEXAS.

FEE OWNER will lease for drilling 80 acres in trend on structure, center of Pure block, W½ of NW¼ of Sec. 14, 4 N, 9 E, Richland County, Illinois. Joines section in which Pure have just discovered their finest sand pool in Illinois. My source of information shows this acreage to be in proven trend. If able to buy and develop at once, this high class acreage, communicate with owner.

JOHN PERRING,
Champaign, Illinois.

5 ACRE Mineral Deed, Landowners Royalty under entire 80 acres of land leased to Gulf Oil Co. being N½ NW¼ sec. 30, twp. 14s, rge. 31e, full price only $32.50. Perpetual and full participating. Send your check. Guarantee delivery. P. O. Box 968, Hobbs, N. Mex.

FOR SALE—15 Bbl. production 20 years old, no proration, 15 wells. 700 ft. 20 ft. sand average, oil 31 grav., large acreage undrilled. Two good powers, electricity close. Pipeline market, good truck markets available. Three Major companies have very successful water drives in same sand nearby. Located Bourbon Co., Kans. Price $20,000. Owner, Wayne Yount, Ottawa, Kans.

FOR SALE—Blocks of 250 to 5,000 acres 5 to 10 year term oil and gas leases located on structures near oil and gas producing wells. Two structures are geologically approved. Low rentals. Depth of drilling 450 to 800 feet. W. P. HARLEY, Bowling Green, Kentucky.

GIVE 6/16ths for well; Lake Centralia, Salem, Ill. field. Sure shot. Title perfect. Address Box J-822, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE, acreage covering proven gas field in eastern Utah. Has one well 2400 ft. High grade gas, good chance for Oil in lower sands.

TOM GOLDEN
413 Main, Grand Junction, Colo.

Leases and Drilling Blocks

I HAVE 410 acre Lease in Hamilton County, Illinois, close to where they are now drilling for oil which I will assign for a reasonable figure and drilling commitment, also have a larger block of acreage in Hamilton County, Illinois, which I will make a deal for a reasonable figure and a drilling commitment. If interested write George W. Hogan Jr., McLeansboro, Ill.

NEW MEXICO
State Oil and Gas Leases
Forty acres and multiples thereof at $6.00 to $30.00 per forty in the Hot Spots. Buy where the major companies own leases. Write for list. Twenty years in the business and not a complaint.
HARRY S. WRIGHT
New Mexico State Lessee, P. O. Box 166, Council Bluffs, Iowa, or P. O. Box 347, Santa Fe, N. M.

880 ACRES AVAILABLE
For leasing in S. E. Graham County, Kansas. Address Box J-828, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE
30,000 acre block, eastern Quay County, New Mexico. Low rentals
BOX 1041
Santa Fe, N. M.

DRILLING DEAL WANTED
Am interested in securing acreage preferably Louisiana-Arkansas for immediate drilling. Operations can start in 30 days.
MEYER EISEMAN
919 Gravier Street
New Orleans Louisiana

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Situations Wanted

JOB as Royalty Gauger, 18 years' experience pipe line gauger, references. Address Box J-810, The Oil and Gas Journal, Tulsa, Oklahoma.

YOUNG MAN desires connection with oil or supply company. Have knowledge of drilling also experience in leasing work. Address Box J-830, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

PRODUCTION SUPT. Age 44—18 years with two major companies in Mid-Continent fields. I can reduce your operating expense and can take full charge of your production and development. Employed at present and can give the best of references including present employer. Address Box J-781, The Oil and Gas Journal, Tulsa, Oklahoma.

ACCOUNTANT and Tax man holding C.P.A. degree, desires position, preferably with oil company in Tulsa. Now engaged in public practice. 20 yrs. experience. Reliable refs. furnished. Address Box J-791, The Oil and Gas Journal, Tulsa, Okla.

CORE ANALYST—Chemist—desires to contact oil company or individual considering establishing core analysis lab. Employed at present. Address Box J820, The Oil and Gas Journal, Tulsa, Oklahoma.

CHEM. Engr. Age 24, Single. Exp. in drlg. and development in La. and Texas. Versatile fellow for any company. Best of refs. Address Box J-823, The Oil and Gas Journal, Tulsa, Oklahoma.

DESIRE connection as sales representative for manufacturer of industrial equipment for the oil industry. Well qualified by technical training and 12 years' experience as refinery superintendent and engineer to competently handle sales engineering work. Address Box J-824, The Oil and Gas Journal, Tulsa, Oklahoma.

REFINERY Superintendent and Engineer, thoroughly experienced in operation, maintenance and construction of modern refining operations including atmospheric, vacuum, pressure, combination, reforming, gas, poly, solvent lube and asphalt units. Considerable management background with successful record. Technically trained. Consider any location. Address Box J-825, The Oil and Gas Journal, Tulsa, Oklahoma.

ATTORNEY, female, 33, Barnard College, LL.B. 1928, admitted New York Bar 1930, Oklahoma Bar shortly; experienced general practice, taxation, labor legislation; eight years prominent New York firm specializing corporation, banking, reorganization; fluent writer and speaker; desires position with law firm or oil company. Address Box J-827, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

WE BUY names royalty owners receiving pipe line checks, also stockholders. Box 2603, Tulsa, Oklahoma.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

Producing and Non-Producing
OIL ROYALTIES
Registered Dealers Only.
GRIMES ROYALTY CO.
Hunt Bldg. Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

ONE-HALF the royalties on 190 acres of land now under lease in the Forest City oil basin in Atchison Co., Mo. northwest Mo. for $2500.
B. F. CURRY, #3, Fairfax, Mo.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Equipment Wanted

WANTED — Skid Type Swabbing machine. State size, price, condition, also if complete with tools, etc. Valley Steel Products Co., St. Louis, Mo.

WANTED—Oil refinery, 500 to 1000 Barrels capacity. Must be complete and in good condition. Give specifications of equipment, location, and price knocked down and loaded or as is. Address Box J-800, The Oil and Gas Journal. Tulsa, Okla.

WANTED: 2500 feet of lightweight 3" or 2½" full hole drill pipe. Also used 6"x12" or 7"x10" late model power pump.

C. N. ADKISSON, JR.
W. T. Waggoner Bldg.
Fort Worth, Texas.

WANTED—Compressor, preferably with engine. Actual delivery 140,000 cu. ft. of free air per 24-hour day at 375#. State make, specifications, price and conditions. Oko Oil & Gas Co., Iola, Kansas.

For Sale—Equipment

FOR SALE—1 Model KS-6-DHK Cardwell Oilwell servicing winch unit, mounted on Mack Truck. Can be inspected O.C. garage. Operating condition now. I.T.I.O., Bartlesville, Oklahoma.

FOR quick sale, a bargain in two Lufkin 6½" pumping units complete. Also other oil field equipment. P. C. Wade, P. O. Box 1986, Houston, Texas. Telephone Hadley 6544.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.25	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
TULSA, OKLA.

CLASSIFIED ADVERTISING

For Sale—Equipment **For Sale—Equipment** **For Sale—Equipment**

PIPE—STEEL STORAGE TANKS—REFINERY EQUIPMENT

75,000 ft.—2½" line pipe-T&C—5.75 lbs. 30,000 ft.—6" line pipe-T&C—24 lbs.
100,000 ft.—4" line pipe-T&C—10.79 lbs. 100,000 ft.—6" line pipe-T&C—19 lbs.
150—80,000 bbl. tanks, quoted cut down and loaded on car; or reerected on customers' grade any location
PIPE AND TANKS — CASH OR CREDIT
COMPLETE STOCK OF REFINERY EQUIPMENT — SEND US YOUR INQUIRIES

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

ONE 50 HP Allamo Gasoline Engine 9225. Write for price and particulars. Address Box J-821, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE

20,000 feet 4" seamless drill pipe with tool joints to single. We have a complete line of casing, line pipe and drilling machinery. Also have racked in Kansas 25,000 feet 8" plain end line pipe suitable for high pressure gas or oil line. Wire, phone, or write to

Louisiana Iron & Supply Co.
Shreveport, Louisiana

$1,000 CASH No. 2 National Drilling Machine and Tools from 10" down. 100 HP. Motor and Jack Shaft. Address Box J-811, The Oil and Gas Journal, Tulsa, Okla.

DISMANTLING GASOLINE PLANT

5 7'x30' Steel Storage Tanks
8 85 HP Bessemer Twin Cylinder Gas Engines
1 40 HP Bessemer Single Cylinder Gas Engine
2 12"x12" Ingersoll-Rand Compressors
3 20"x12" Ingersoll-Rand Vacuum Pumps
Also complete stock of new and dependable used line pipe and casing.

PRODUCERS PIPE & SUPPLY CO.
Tulsa, Oklahoma
Box 1814 Phone 2-1188; L.D. 501

IF YOU buy or sell royalties, leases or production, DON'T FAIL to check each item listed in these classified columns. They comprise the best medium of exchange available to you.
Classified Department

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

FOR SALE: At our Oklahoma City Warehouse Model D48 Muskogee Iron Works long line well servicing unit powered by HXE Hercules engines mounted on No. 55 truck. I.T.I.O., Bartlesville, Oklahoma.

Public Notice

Jane Phillips Sorority, Inc., a National Organization, Headquarters Bartlesville, Oklahoma, 31 Chapters in 20 States.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

IMAGINE oil men doing long term financing through banks! Read "The Banks Loosen Up." Mimeographed bulletin $1.00. America's 72 leading underwriters who bought $800,000,000 securities 1938, $3.00. Insurance companies largest buyers whole issues stocks and bonds told in "The Money Market Offered by Insurance Companies" with list of 83 leaders $3.00. All three $6. John Morris, 1040 S. Paxon, Philadelphia.

OIL FINANCING proven acreage. Oil payments bought. Texas only. Address Box J-826, The Oil and Gas Journal, Tulsa, Oklahoma.

Always Ready to Help You

You can acquaint thousands of oil men with your particular want or service through an advertisement in this section of The Oil and Gas Journal.

The interested readers respectfully consider the merits of every advertisement in the Classified Columns because they are always in the market for good deals.

Your lease, royalty, production, equipment or service would appeal to some of them.

Mail your advertisement now for next week's issue so that these men can make a deal with you.

CLASSIFIED DEPARTMENT

For Sale—Maps

UP-TO-DATE
County ownership and oilfield maps in TEXAS and NEW MEXICO. WILDCAT MAP of Texas and eastern N. M. published monthly, shows all wildcats drilling in relation to proven fields. Single copy $3.00. Subscription rates.
ZINGERY OIL MAP COMPANY
Fair Bldg. Fort Worth, Tex.

Survey Service

OIL FINDING DOWSING METHOD My deductions a practical method which picks up vibratory reactions emanating from carbo-hydrates. Physico method finds oil, locates faults. Same method discovered great East Texas field also our Watson #2 first producer Wilmington, Calif. field. Employ a man that owns producing wells. I find oil if it exists or no charge. George Miller, 1548 Post, Torrance, California.

If we do not maintain a classification exactly suited to the type of advertisement you wish to run, we shall be glad to create a fitting one.
Classified Department

Business Opportunities

Warehouse Space, Oil well supply business, bonded, act Manufacturer's agent,
Knox Warehouse Company
1302 Conti Street, Houston, Texas

ATTENTION MANUFACTURERS, or Manufacturers representatives — available now, a large, attractive, light and airy office with two windows in Chicago loop. Will rent with all services, including stenographic, and with or without furniture, close to all transportation. Phone or write The Oil and Gas Journal, 300 W. Adams Street, Chicago, Illinois.

I HAVE lately taken 3,200 acres oil and gas leases in Perry Township, Wood County, Ohio, where drilling is about 1200 feet, where there has been 500 barrel wells and I have three wells with oil and gas now in them. I will sell one-fourth interest in these leases for $16,000 and guarantee to drill four wells and clean out three wells and put them on the pump. Write for description prospectus. J. H. Crites, Fostoria, Ohio.

ILLINOIS drilling deals wanted by reliable and financially strong group. Submit your deal regardless of cost. Might also be interested in other States. Address Box J-829, The Oil and Gas Journal, Tulsa, Oklahoma.

ILLINOIS, INDIANA, and KENTUCKY is the place to make the quick money in oil leases, drilling wells and royalties, this year. Opening headquarters in Evansville, Ind., soon. Get in touch with me.
BOX 2152
WICHITA, KANSAS.

Canadian Fields

(Continued from Page 92)

2w5, is below 2.885 feet. Anglo-Canadian Oil Co. No. 5, LSD 8, Section 31-18-2w5, is below 686 feet.

North Turner Valley

In North Turner Valley, Royalite Oil Co. No. 35, LSD 7, Section 27-20-3w5, is below 6,312 feet after cementing off and sidetracking lost tools.

New Tests Planned

In Section 29-18-2w5, Command Oils No. 2 will be drilled in LSD 11, south of Command No. 1 producer which finished at 7,908 feet with temporary allowable set at 344 bbls. Equipment from No. 1 will be used. In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 6 has been spotted in LSD 3, south and west of Anglo-Canadian No. 3 producer. In Section 32-18-2w5, West Turner Petroleums will move rotary outfit from No. 3 producer to LSD 3, where West Turner No. 4 has been located. Test will spud early this month. Davies Petroleums, Ltd., with three producers aggregating 750 bbls. a day allowable production, is organizing a subsidiary, Davolite Oil Co., to develop Turner Valley acreage. West flank acreage in the main field is being acquired and the new company will also take over part of Section 33-17-2w5, in South Turner Valley where Davies Petroleums No. 3 is standing unfinished at 3,245 feet.

National Petroleum Corp., with two producers in South Turner Valley, is negotiating for 10,000 acres in North Turner Valley near Home Oil Co. No. 2 Millarville, and may drill a test this spring. The company has a 5 per cent interest in Harris No. 2, now drilling, in exchange for use of its drilling equipment.

Alberta Oil Revenue

Official figures of the Alberta lands and mines department place the amount received by Alberta oil producers in the first 10 months of 1938 from crude deliveries at $7,485,820 compared with estimated gross returns for the 12 months of 1937 of $4,902,739.

East Side Drilling

On the Twin dome structure, northeast of Turner Valley, Anglo-Canadian Oil Co. No. 1, LSD 7, Section 16-21-28w4, is at 622 feet, corrected depth, reaming to set surface casing.

Northern Foothills

On the Brazeau structure in the northern foothills west of Edmonton, Home Oil Co. No. 1, LSD 16, Section 7-43-17w5, is redrilling and carrying 10-inch casing below 3,905 feet, with original bottom at 4,520 feet.

On the Clearwater structure, Altoba No. 1, Section 31-34-9w5, bottoming at 1,318 feet, is drilling out cement for a production test of an oil saturated zone in the Devonian limestone between 1,196 and 1,286 feet. Location, about 70 miles west of Innisfail, is on a structure about 13 miles long and 2 miles wide, the Devonian limestone top lying at about 258 feet. Cores indicated both gas and oil. Under ordinary road conditions the trip to Calgary takes a day, but homing pigeons will be used to communicate any important news, making the flight in about three hours.

On the Grease Creek structure west of Olds, Grease Creek-Northwest Co. No. 1, LSD 2, Section 13-29-7w5, has spudded. The structure is similar to Turner Valley, with the Benton shales in the valley floor and Belly River outcrops along the surrounding low hills dipping at such angles as to indicate complete closure. It is expected the Madison limestone will be encountered several thousand feet higher than in Turner Valley. Grease Creek Petroleums, Ltd., of Vancouver and Northwest Co., a subsidiary of Imperial Oil, Ltd., are sharing the venture 50-50, with Imperial Oil, Ltd., having first call on Grease Creek's share of any production at prevailing field prices.

Index to Advertisers

A

Abercrombie, J. S. Co.
Abercrombie Pump Co.
Air Reduction Sales Co. 1
Ajax Iron Works
Alco Products Division — American Locomotive Company
Allis-Chalmers Mfg. Co.
Allsteel Products Mfg. Co., The
American Bosch Corporation
American Cable Division of American Chain & Cable Co., Inc.
American Cast Iron Pipe Company
American Iron & Machine Works
American Meter Company
American Sand-Banum Co., The 95
American Steel & Wire Company
Armstrong Machine Works 70
Atlas Drop Forge Co. 75
Atlas Imperial Diesel Engine Co.
Atlas Powder Company
Atlas Supply Co.
Auer, C. L., & W. W.
Axelson Manufacturing Company

B

Baash-Ross Tool Company 71
Babcock & Wilcox Tube Co., The
Badger & Sons Co., E. B.
Bakelite Corporation
Baker Oil Tools, Inc. 18
Baldwin-Duckworth Chain Corp.
Bantam Bearings Corp.
Baroid Sales Company
Barret, William M., Inc. 95
Bastian-Blessing Co., The
Beaumont Iron Works Co.
Beckman, Inc.
Bethlehem Steel Co.
Boston Woven Hose & Rubber Co.
Braden Steel Corporation
Bradford Motor Works, Inc.
Brewster Company, The 71
Bridgeport Machine Company 49
Broderick & Bascom Rope Co.
Brown Instrument Co., The
Buckeye Traction Ditcher Co., The
Butler Manufacturing Co.
Byron Jackson Co.

C

Cable, Jo H 94
Cameron Iron Works, Inc.
Carey Company, The Philip
Carnegie-Illinois Steel Corporation
Case, J. I., Company
Cast Iron Pipe Research Association, The 36
Caterpillar Tractor Co.
Chain Belt Co., The
Chaplin-Fulton Mfg. Co., The 74
Chapman Valve Mfg. Co., The
Chemical Process Co., Inc., The
Chevrolet Motor Division, General Motors Sales Corporation 6
Chicago Bridge & Iron Company 13
Chiksan Oil Tool Co., Ltd.
Clark Brothers Company
Classified Advertising 110-111
Cleveland Trencher Company
Climax-Molybdenum Company
Columbia Steel Company
Columbian Steel Tank Co.
Continental National Bank of Fort Worth
Continental Oil Co.
Continental Supply Company, The 62
Cooper, Fred E.
Cooper-Bessemer Corp., The
Coppus Engineering Corp., The
Core Laboratories, Inc.
Crane Co. 7
Cummins Engine Co.
Curtin, W. H., & Co., The

D

Darling Valve & Mfg. Co.
Davis Regulator Co.
Dayton Rubber Mfg. Co., The
Diamond Chain & Manufacturing
Dodge Mfg. Company 91
Dohenv Stone Drill Co. Front Cover
Dowell, Incorporated
Dragon Mfg. Co., The
Dresser, S. R., Mfg. Co.
Du Pont de Nemours & Co., Inc

E

Eagle Picher Lead Co. 56
Eastman Oil Well Survey Co.
Economy Electric Lantern Co. 90
Edward Valve & Mfg. Co., The
Emsco Derrick & Equipment Company
Ensign Carburetor Company, Ltd.
Ethyl Gasoline Corporation
Evansville Chamber of Commerce 66

F

Failing, George E., Supply Company
First National Bank of Fort Worth
First National Bank in Houston
First National Bank & Trust Co. of Tulsa, The
Fisher Governor Company
Fluor Corporation, Ltd., The 11
Foote Bros. Gear and Machine Corporation
Ford Motor Co. 12
Fort Worth Chamber of Commerce
Fort Worth Clearing House Association
Forth Worth National Bank, The
Foster Wheeler Corp.
Four Wheel Drive Auto Co., The
Foxboro Co., The
Franks Mfg. Co.
Frick-Reid Supply Corporation
Frost National Bank

G

Gardner-Denver Company
Garlock Packing Company, The 73
Gaso Pump & Burner Mfg. Co.
Gasoline Products Co., The
Gates Rubber Co., The
Gatke Corporation
General American Transportation Corporation—Terminal Division
General Electric Company
General Motors Truck
General Paint Corporation
General Power, Inc.
Geophysical Service, Inc. 79
Gilmer Company, L. H. 2
Gilmore Wire Rope Division of Jones & Laughlin Steel Corporation
Girdler Corporation, The 10
Goodall Rubber Co.
Goodrich Co., B. F., The
Goodyear
Gott, H. P., Mfg. Co. 87
Goulds Pumps, Inc.
Graver Tank & Mfg. Co., Inc.
Gray Processes Corporation, The
Grossrohr-Verband G.m.b.H.
Guiberson Corporation
Gulf Oil Corp.
Gulf States Utilities Co.
Gustin-Bacon Mfg. Co.

H

Halliburton Oil Well Cementing Co.
Hanlon-Buchanan, Inc.
Happy Belting Company
Harnischfeger Corporation
Harrisburg Steel Corporation
Hazard Wire Rope Division of American Chain & Cable Co., Inc. Inside Back Cover
Hercules Tool Company
Hewitt Rubber Corp. 77
Hill-Hubbell & Co.
Hoard Exploration Company
Hughes Tool Co. Back Cover
Humble Oil & Refining Co.
Hunt Tool Company
Hydril Co. Front Cover

I

Independent Exploration Company
Ingersoll-Rand
International Derrick & Equipment Co., The
International Geophysics, Inc.
International Harvester Co. 5
International Nickel Company, Inc., The 16
International Petroleum Exposition
International Supply Co.

J

Jarecki Manufacturing Company
Jensen Brothers Manufacturing Co.
Jerguson Gage & Valve Co.
Johns-Manville Corporation
Johnston, M. O., Oil Field Service
Jones & Brooks, Inc.
Jones Company, S. M.
Jones & Laughlin Steel Corporation Inside Front Cover

K

Kane Boiler Works, Inc.
Kellogg, M. W., Company, The
Kennedy Valve Mfg. Co., The
Kerotest Manufacturing Co.
Keuffel & Esser Co.
Key Company
Keystone Driller Co.
Kibele Manufacturing Co.
Kinley Co., M. M.
Kinzbach Tool Co. 71
Kobe, Incorporated
Kropp Forge Company
Krupp

L

Laminated Shim Co., Inc.
Landis Machine Co., The
Lane-Wells Co., The 14-15
Larkin Packer Company, Inc.
Layne and Bowler Co., The
Layne & Bowler, Inc.
Leland Equipment Co.
Lennox Hotel
Le Roi Company
Leschen, A., Sons Rope Co.
Lincoln Electric Company, The
Linde Air Products Co., The
Line Scale Co., Inc.
Link-Belt Company
Lockheed Aircraft Corporation
Lone Star Cement Corporation
Lucey Products Corporation
Ludlow Valve & Mfg. Co., The
Lufkin Foundry & Machine Co.
Lufkin Rule Co., The 87
Lummus Co., The
Lunkenheimer Co., The

Mc

McGregor Working Barrel Company
McKissick Products Corp.

M

MacClatchie Manufacturing Company
Macwhyte Co.
Magnolia Airco Gas Products Co. 1
Maloney Tank Mfg. Co.
Manhattan Rubber Mfg. Division
Mannesmannrohren Werke
Marmon-Herrington Co., Inc.
March, James P., Corp.
Martin-Decker Corp.
Maschinenfabrik Imperial G.m.b.H.
Mathey Machine Works, C. A.
Mauser, K.-G.
Maxim Silencer Co., The 74
Mayfair Hotel 90
Medart Company
Meehanite Research Institute
Merco Nordstrom Valve Co.
Metric Metal Works
Midco Tool & Supply Co.
Mid-Continent Supply Co.
Midwest Piping & Supply Company, Inc., The
Miller Sand Pump Co., The 75
Mission Mfg. Co., The 85
Monsanto Chemical Company
Motor Improvements, Inc.
Murcell, Inc., U. C.
Murphy Diesel Company, Ltd.
Muskogee Iron Works

N

National Airoil Burner Company
National Bank of Tulsa 88
National Supply Co., The 52
National Transit Pump and Machine Co.
National Tube Co.
Naylor Pipe Company
New Bedford Cordage
New Deal Specialty Co., The
Newman, Hender & Co., Ltd.
Noo Engine Co.

O

O'Bannon Co., Walter
Oil Center Tool Co. 70
O.C.S. Mfg. Co., The
Oil Equipment Manufacturing Co.
Oil Industry Mailing List Co.
Oil Well Mfg. Corp.
Oil Well Supply Company
Oil-World Exposition, Inc.
O.K. Machine & Manufacturing Co.
Oliver United Filters, Inc.
Osage Metal Company
Oster Manufacturing Company
Otis Pressure Control, Inc.

P

Page Fence Association
Page Steel & Wire Division of American Chain & Cable Co.
Parkersburg Rig & Reel Co., The
Parkhill-Wade
Patterson-Ballagh Corporation
Peerless Pump Division of Food Machinery Corp.
Penberthy Injector Co. 33
Pennsylvania Grade Crude Oil Association
Perco, Inc. 61
Petroleum Advisers, Inc.
Petroleum Electric Power Club
Petroleum Publishing Company, The 80-81
Petroleum Rectifying Company
Philadelphia Gear Works
Pittsburgh-Des Moines Steel Company
Pittsburgh Equitable Meter Co.
Pittsburgh Steel Company
Plymouth Cordage Co.
Pomona Pump Co.
Portable Rig Co.
Preformed Wire Rope
Prest Machine Works Co.
Price Co., H. C.
Pritchard, J. F., & Co.
Pure Oil Co.

R

Reading-Pratt & Cady Division of American Chain & Cable Co., Inc.
Rector Well Equipment Co., Inc.
Reda Pump Co.
Reed Roller Bit Company 38-69
Regan Forge & Engineering Co.
Reilly Tar & Chemical Corporation
Republic Rubber Division of Lee Rubber & Tire Corp.
Republic Steel Corp.
Robidoux Hotel 87
Ryerson & Son, Inc., Joseph T.

S

San Antonio, City of
Schlumberger Well Surveying Corporation
Security Engineering Co.
Seismograph Service Corp.
Shafer Bearing Corporation
Shaffer Specialty Co., The
Shaffer Tool Works
Shand & Jurs Co.
Sharples Corporation, The
Shell
S.K.F. Industries, Inc.
Skinner Co., M. B.
Smith, A. O., Corporation 4-5
Smith, A. O., Corporation, Meter Division
Smith Company, E. M.
Smith, H. C., Oil Tool Co. 71
Smith Company, Howard 70
Smooth-On Mfg. Co.
Socony-Vacuum Oil Co.
South Chester Tube Co.
Southwestern Gas & Electric Company
Spang Chalfant, Inc.
Spang & Company
Sperry-Sun Well Surveying Co.
Standard Brake Lining Co. 70
Star Drilling Machine Company
Stark, Ralph, Inc.
Stearns-Roger Manufacturing Co.
Sterling Engine Co.
Sturtevant Company, B. F. 90
Subterrex

T

Taylor Forge & Pipe Works
Taylor Instrument Companies
Technical Oil Tool Corporation 70
Texaco Development Corporation
Texas Iron Works
Thermoid
Thornhill-Craver Co., Inc.
Timken-Detroit Axle Co.
Timken Roller Bearing Company
Timken Roller Bearing Company —Steel and Tube Division 8
Toledo Pipe Threading Machine Co., The 73
Tretolite Co.
Trinity Portland Cement Company
Tube Turns, Inc.
Tulsa Boiler & Machinery Co.
Tulsa Chamber of Commerce
Twin Disc Clutch Co.

U

Union Wire Rope Corporation
Unit Rig & Equipment Company
United Motors Service, Inc.
United States Rubber Company
United States Steel Corp., Subsidiaries
United States Steel Products Company
Universal Atlas Cement Co.
Universal Exploration Co.
Universal Oil Products Co. 47

V

Visco Products Company
Vogt, Henry, Machine Co.

W

Wall Rope Works, Inc. 70
Walworth Company
Warren Petroleum Corporation
Watson-Stillman Co., The
Waukesha Motor Co.
Well Equipment Mfg. Corp.
Westinghouse Electric & Mfg. Co.
Wheatley Bros.
Wheland Co., The
Whitney Chain & Mfg. Co., The
Wickwire Spencer Steel Company 35
Williams & Co., J. H.
Wilson Manufacturing Co.
Wilson Welder & Metals Co., Inc.
Witte Engine Works 66
W-K-M Company, Inc.
Worthington Pump & Machinery Corporation
Wyatt Metal & Boiler Works

Y

Young Engine Corp.
Young Radiator Company
Youngstown Sheet & Tube Co.

Z

Zink Burners, John

The Oil Man's Calendar appears on Page 30